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TO BETTER IDENTIFY AND UNDERSTAND HIGH SCHOOL FAILURES. FINAL REPORT.

BY- POLK, KENNETH   LAFORGE, ROLFE
OREGON UNIV., EUGENE
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STATISTICAL MODELS WERE USED TO STUDY THE NATURE OF HIGH SCHOOL "FAILURES". THE STUDY (1) COMPARED THE DEGREE TO WHICH FAILURE COULD BE PREDICTED BY MULTIVARIABLE AND CONFIGURAL MODELS AND (2) CONSTRUCTED SCALES BY MEANS OF TRADITIONAL PSYCHOMETRIC ITEM ANALYSIS AND CROSS-VALIDATION AND BY MEANS OF STRUCTURAL ITEM ANALYSIS. THE SAMPLE CONSISTED OF 819 MALES. ANALYSES INCLUDED (1) RELATIONSHIPS AMONG CRITERIA, (2) RELATIONSHIPS AMONG INDEPENDENT VARIABLES AND CRITERIA, (3) SUPPRESSOR VARIABLES, (4) MODERATOR VARIABLES, (5) CONSTRUCTION OF COMPOSITE SCALES, (6) LINEAR MULTIPLE REGRESSION ANALYSES, (7) SELECTOR VARIABLES, AND (8) CONFIGURAL MODEL ANALYSIS. THE RESULTS INDICATED THAT CONFIGURAL EFFECTS INVOLVING SOCIOECONOMIC STATUS DID EXIST. ALSO THE STABILITY OF THE REGRESSION MODEL UNDER CROSS-VALIDATION WAS GREATER THAN EXPECTED FOR A CONFIGURAL MODEL. (RS)

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TO BETTER IDENTIFY AND UNDERSTAND HIGH SCHOOL FAILURES , FINAL REPORT

Cooperative Research Project No. S-188

FINAL REPORT

Kenneth Polk

and

Rolfe LaForge

University of Oregon
Eugene, Oregon

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To Better Identify and Understand High School Failures
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LIST OF CONTENTS

Page No.

Section I. Problem on Which the Research Was Focused 1

Section II. Objectives 3

Section III. Procedures 4
- A. Sample 4
- B. Sources of Data 4
- C. Variables Used 5
- D. Analyses Performed 7

Section IV. Analyses of the Data and Findings 12
- A. Relationships Among the Criteria 12
- B. First-Order Relationships Between the Independent Variables and the Criteria 12
- C. Results of the Search for "Suppressor Variables" 15
- D. Results of the Search for "Moderator Variables" 17
- E. The Construction of Composite Scales 17
- F. Results of the Simple Linear Multiple Regression Analyses 18
- G. Multiple Regression Analyses with "Selector Variables" 20
- H. Configural Model Analysis 24

Section V. Conclusions 25

Section VI. References

Section VII. Tables 26-78

Section VIII. Appendix I

Section IX. Appendix II.

LIST OF TABLES

Section II. Table B.1 26
- D.1 27
- D.2 28
- D.3 29

Section III. Table A.1 30
- B.1 through B.9 31-39
- C.1 through C.8 40-49
- E.1 50
- F.1 51-53
- G.1 through G.24 54-78

TO BETTER IDENTIFY AND UNDERSTAND HIGH SCHOOL FAILURES

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FINAL REPORT

PROBLEM ON WHICH THE RESEARCH WAS FOCUSED

There is little need to document the importance of the problem posed by the increasing proportion of our school population marked as "failures" either by their own self-evaluation, by teacher or peer evaluation, or by behavior which has removed them from the school environment or brought them into overt conflict with society, even before they have been able to attempt to assume the burden of adulthood in our society. While we may be able to "understand" such individuals in the sense that an expensive case-study can usually be carried out which will explain "failure" after the fact, we do not "understand" sufficiently well to predict efficiently. That is, we cannot use economical, practical methods, such as teacher nomination forms or questionnaire surveys of the student population, to identify in advance those youth most likely to profit from specific remedial programs. In fact, even for the purpose of planning such school and community remedial programs, it is not yet possible to represent adequately in research the complex of interacting variables likely to produce "failure."

However, more complex models for social science research, able to deal with interactions among sociological and psychological variables, are becoming available. Briefly, these models allow certain sociological variables to be used to separate the school population into more homogeneous sub-populations. Within these sub-populations, the relationship of other sociological characteristics and psychological characteristics to "failure" are more likely to show meaningful consistencies.

In the statement of the problem under study--characteristics of high school "failures"--a multidimensional conception of "failure" is to be understood. There are at least five clear possible criteria, any one of which constitutes a sufficiently serious personal or social tragedy to merit investigation and remedial planning:

A. Academic failure, as evidenced by school grades of "F" or "D";
B. Self-perceived failure, as evidenced by answers to questionnaire items in one or more of two areas:
    1. Academic failure: achievement below level acceptable to the student himself, and
    2. Social failure: as evidenced by a feeling of isolation and alienation from the activities and organizations found in the school setting;
C. Teacher-perceived failure, as evidenced by teachers' responses on rating forms relating to several areas of pupil performance and social adequacy;

D. Removal from school environment: "School dropout";
E. Overt behavioral conflict with society: "Delinquency."

While these five criteria are listed separately for clarity, they have been shown by many studies to be highly interrelated (e.g., Bartlett & Baumeister, 1960; Coleman, 1962; Lichter, 1962; Savage, 1962; Williams & Knecht, 1962).

To identify and understand social phenomena involving objective data on large numbers of individuals requires both a substantive theory of the phenomena and a formal, statistical model of the principal relationships involved. In the present instance, the model combines both sociological and psychological variables in a more realistic, interactive manner than is possible with traditionally applied statistical techniques. It is used to identify statistically those students who are likely to be classed as "failures" by one of the above five criteria.

Substantive theories of "failure," especially delinquency, have ranged from extremes of sociological determinism (e.g., Cloward & Ohlin, 1960), through models posing an interaction of psychological and sociological determinants (e.g., Cohen & Short, 1961; Himelhoch, 1963), to more exclusively psychological interpretations (e.g., Bandura & Walters, 1959).

One of the many possible middle positions is to view the characteristics of the individual as operating in a manner imposed by the characteristics of the cultural and societal milieu. A mathematical model of this view involves a two-stage sequence: (1) an individual is first classified with respect to the most crucial sociological variables, and (2) the significance of his other characteristics is then evaluated in the light of the first classification. Identical characteristics in the second stage may take on different meanings for individuals differing with respect to the results of the first-stage classification. Recent theoretical developments in personality assessment (e.g., LaForge, 1964a), have provided such two-stage models and computer programs for their large-scale application (e.g., Stewart, 1963).

A second possible middle position on the continuum between purely sociological and purely psychological determinism is to view selected variables from each realm as interacting in a multiplicative fashion. While many writers have pointed out the possibility of a multiplicative interaction of social variables (e.g., Meehl, 1950; McQuitty, 1953; Saunders, 1953; Horst, 1954; Lubin & Osburn, 1957), relatively few demonstrations of such "configural" relationships have in fact been made. Among the few empirical studies finding such relationships are those of Wagner & Strabel (1935), Frederiksen & Melville (1954), and Ghiselli (1956, 1960a, 1960b). One possible reason for the relative paucity of successful empirical demonstrations is that most such studies have remained within the domain of psychometric tests. Another is the failure to use an efficient procedure for the construction of "moderator" (multiplicative) scales from a set of questionnaire responses.

Conversely, sociologists concerned with the study of problems of adolescents have long been aware of the possibility of interactions but they have tended to view questionnaire responses as dichotomous variables rather than as items which could be represented by more inclusive "scales"; hence they have tended to investigate possible interactions by means of categorical techniques, such as partial association. Less frequently, they have investigated differences between scale correlations as a function of certain key variables. Thus Coleman (1962, p. 261) found the correlation between IQ and school grades to be dependent on the degree to which the adolescent culture rewarded academic achievement, for those students who had sufficiently high IQs. With respect to the hinterland population proposed for the present study, sociological characteristics have been shown to be related to "failure" (Koval & Polk, 1964). Low socio-economic position, low parental education, family disruption, poor communication with parents, social isolation, involvement with a deviant adolescent subculture, and alienation from the school and community, all seem to some degree characteristic of "failure" as broadly defined here. Do such broad characteristics as social class interact with other more individual characteristics to produce failure among adolescents? If so, a more detailed investigation is required before programs can be devised which focus precisely on effective remedies.

OBJECTIVES

The present research has attempted to better predict and understand the nature of high school failure by using multivariable and configural statistical models which would combine psychological and sociological information in such a way as to demonstrate possible configural effects.

Failure was defined multidimensionally--including academic failure, self-perceived failure, teacher-perceived failure, and delinquency--but each of these criteria was treated in a separate study. It was recognized that the various criteria were correlated, in some cases highly.

The model used sociological variables to separate the sample of high school boys into subsamples; the relative importance of various predictors was then examined within subsamples in an effort to discover differences in the weights between subsamples.

A second objective was to construct predictor, suppressor, and moderator scales from the items of a questionnaire in order to develop empirically a configural prediction of one or more of the criteria of "failure." The configural models used were compared with traditional, linear models with respect to the level of prediction obtained after cross-validation.

Specifically, the objectives as stated in the proposal were:

A. To compare discriminant function weights or multiple regression weights when traditional, linear, additive models are used with the weights as the total sample is broken down into more homogeneous groups on the basis of one or two basic sociological variables, the remaining variables being used in linear combination. To compare the degree to which "failure" can be predicted by the two models, as measured by the cross-validated multiple correlation.

B. To construct from the items of the questionnaire (described in Appendix I) two scales. The first scale will be constructed by means of traditional psychometric item analysis and cross-validation. The second will be constructed by novel "structural item analysis" to approximate a "moderator variable" (Saunders, 1953), i.e., a variable which when multiplied by the first, traditional scale will improve prediction of "failure."

PROCEDURE

The present investigation utilized data already collected as part of a large study of youth in a Pacific Northwest area (Koval & Polk, 1964). What is attempted here is a statistical study which relies mainly on analysis of covariance and on criterion-group scale construction to illuminate the nature of high school "failure." Two principal approaches were used, as described under OBJECTIVES above.

A. Sample. The population has been described in the study by Koval and Polk (1964). The sample studied consists of the entire group of male students attending high school the day the questionnaire was administered. This high school is located in a northwest city of about 70,000 population. Questionnaires with adequate responses were obtained from 819 boys. For certain variables described below, other information was required from school records, and the sample size was decreased by the unavailability of this information for some students.

B. Sources of Data

1. Questionnaire. As a part of a county-wide demonstration project on juvenile delinquency, an extensive, anonymous questionnaire was given to all students in the demonstration high school. The questionnaire was administered by the teachers of the high school during a regular class period of 50 minutes. From this questionnaire, 194 self-report variables were taken for the purposes of the present investigation. Four of these were selected as possible "criteria" of self-perceived "failure," to be used along with four variables obtained from other sources. The remaining 190 variables were used as "predictors," i.e., as variables associated with the criteria. (See Appendix I for a list of variables.)

2. School records. For approximately 500 boys, the necessary school records were available to provide data on school grades, achievement and intelligence test scores, and teacher ratings on seven scales. The test scores (California Test of Mental Maturity) were employed in certain studies as predictors. Two of the teachers' ratings, "Responsibility" and "Emotional Stability," were selected as criteria of "teacher-perceived failure." Modal grade for each student was used as a criterion of academic failure.

3. Community records. On the basis of a survey of the records of the county juvenile court and a request that each teacher nominate "behavior problems" among their students, a tripartite "Behavior Classification" was obtained:

"Juvenile Delinquent" (93 students)
"Nominated Behavior Problem" (33 students)
"Other" (693 students)

This variable was always treated as a dichotomy: "Nominated Behavior Problem" sometimes was combined with the "Other," sometimes with the "Delinquent." Subsequently, this variable will be referred to as Behavior Classification I, when "Delinquency" is isolated, or Behavior Classification II, when "Delinquency" and "Nominated Behavior Problem" are combined.

4. Missing data and non-response. As in any multivariate investigation, missing data and non-response caused problems. The total sample that responded to the questionnaire included 819 boys, but it is clear that those who did not take the test because they were absent from school or class would include a disproportionately large number of the very kind of youth the study was designed to include. Retesting would not solve the kind of bias due to a greater absence rate among school "failures" since these students would be also more likely to be absent on any two given days than other students. One can argue, however, that the bias introduced by not including absent students would tend to reduce the likelihood of statistically significant findings, since both the number of problem youth and the extremity of their problems would tend to be reduced in the sample that actually were in school on the day of testing. Thus most results which were statistically significant in this sample should be even more significant in the total sample, could that ever be observed.

A problem which is more amenable to evaluation is that of non-response to specific questions on the questionnaire. The frequency of non-response varied greatly from question to question. A representative sampling of non-response rates is presented in Table II.B.1. It would appear that defensiveness is an important factor in non-response, as exemplified by variables 68 and 170. Other factors also appear to be important, as in variables 86 and 14. On many of the "attitudinal" variables, non-response was virtually non-existent (e.g., variable 95). The possibly defensive nature of non-response was taken into account in the disposition of these cases.

Missing data were also a problem due to the fact that the school records were not complete; the school's regular testing program did not reach many of their students, and again we may suppose that "problem" youth are over-represented among absentees. For example, over a third of the sample did not have an intelligence test result recorded. (See Table II.B.1.) On the other hand, adequate grade records were missing for only 12 students.

Missing data or non-response were handled in different ways in the two major analyses. In computing the intercorrelation matrix of the 198 variables, which was used in constructing scales (Objective "B") cases for whom no answer was present, were combined with cases who responded in one of the central categories of the variable; usually this category was "3". The way in which missing data were combined in every case has been indicated in the list of variables (Appendix I). It was necessary to combine cases in this way, which admittedly distorts the correlations to some extent, in order to maintain a respectable sample size. An attempt to remove all cases for whom any data were missing would have reduced the sample size excessively. Moreover, there is no guarantee that the resulting bias would have been less than that resulting from the procedure followed. However, certain variables, such as IQ, had to be deleted from the matrix. In the other major analysis (Objective "A"), studies were done on small sets of variables separately, and it was often possible to delete cases for whom data were missing without inordinately reducing sample size. Often, however, missing data were assigned a central or somewhat socially undesirable response value.

C. Variables used

1. Criteria taken from records or reports of others:
   a. Modal school grade (from "A" = "5" to "F" = "0")

- b. Behavioral classification
  - 1) Delinquent vs. non-delinquent (necessarily a skewed dichotomous variable, 93-726)
  - 2) Delinquent and nominated behavior problem vs. other (also a skewed dichotomous variable, 126-693)
- c. Responsibility (teacher's rating). A five-point scale; high indicated that the student was rated as responsible.
- d. Emotional stability (teacher's rating). A five-point scale; high indicated that the student was rated as stable.

2. Criteria taken from High School Questionnaire (self-report)
   - a. "I am not doing well in school"; rated on a six-point scale. This item was reversed; a high score means that the student reports he is doing well.

     Three potential criteria were obtained from an adaptation of Coleman's (1961, Appendix, p. 3) use of 10 concentric circles to allow students to indicate by a pencil mark the distance they were from "the center of things" and the distance they would like to be.
   - b. "Distance from 'the center of things'"; this distance was coded on a 10-point scale, "0" indicating the center, "9" the outermost line.
   - c. Distance between where the student indicated he was and where he would like to be (sign of the difference disregarded).
   - d. How much closer to the center the student would like to be. (This variable differs from the preceding only in that a code of "0" was assigned to a student who indicated he would like to be further from the center than he was.)
3. Predictors. One hundred ninety of the questionnaire responses were considered as potential "predictor variables." A complete list of these variables appears in Appendix I. They deal with many domains, some of the most important of which are the following:

   - a. Family socio-economic status (e.g., father's occupation, parents' education);
   - b. Family situation and background, especially geographical mobility (e.g., live with both parents, number of siblings, years at present address, history of illness or injury, summer work, how religious, rules parents have, strictness of parents);
   - c. School participation vs. isolation (e.g., number of school organizations to which student belongs);
   - d. Academic interests, values, and goals (e.g., which high school courses liked, valued, especially pre-college vs. shop or vocational, and plan to go to college);
   - e. Affiliation vs. isolation from various peer societies and sub-groups, especially delinquent vs. college-bound (e.g., friends in college, friends who have dropped out, friends graduated and working, teenagers known personally who have been in trouble with police, drink beer, drink liquor);

f. Alienation vs. esteem for parents, school, community, peer groups (e.g., would go riding with friends rather than to school rally, loyalty to parents rather than peers, rating of community and school);
g. Reported time spent in various activities (e.g., hours schoolwork done at home, hours visiting friends, hours on dates, hours working, hours in clubs, hours with father, hours with mother);
h. Estimates of status-conferring characteristics (in peer culture)(e.g., athletics, family, money, stirring up excitement, reputation, dress; these were estimated separately for boys' and girls' views of boys and girls);
i. Attitudes toward delinquent activities (e.g., who is to blame, what activity should be considered delinquent);
j. Miscellaneous statements of values, attitudes, and descriptions of self, peer group, authority, achievement, and school (e.g., "If a person wants to be successful he sometimes has to go against his principles"; "School is dull and boring"; "If I could trade, I would be someone different from myself."

D. Analyses Performed

Five different stages of complexity were used in the analysis of the relationships which might exist between predictors and criteria.

1. Identification of Predictors. The complete matrix of intercorrelations among the 198 variables was calculated for approximately one-half the sample (the odd-numbered half), i.e., on a total of 418 male high school students. All those variables showing a correlation with a criterion greater in magnitude than .166 (the .001 two-tailed critical region) were collected as possibly valid predictors of the criterion.

2. Identification of Suppressors. Variables not correlating as much as ±.166 with the criterion in question but correlating more than ±.166 with a predictive variable (i.e., one selected by the first stage of analysis because it correlated more than ±.166 with the criterion) were picked out by examining the matrix of intercorrelations. These were candidates for the role of "suppressor variables," which might clarify further the conditions accompanying failure, since they presumably would be associated with concomitants of failure rather than with failure itself.

3. Identification of Moderators. Variables not correlating as much as ±.166 with a criterion, but whose product by a predictive variable (i.e., one correlating more than ±.166 with a criterion) correlates more than ±.166 with that part of the criterion in question not associated with the predictive variable (i.e., the "residual") were to be picked out by a computer program to be developed. Such variables were identified as "moderators," i.e., ones moderating the degree of relationship between a predictor and a criterion.

4. Construction of Composite Scales. The predictive items for each criterion were collected into a predictor scale by simple addition. The score of each individual in the second half of the sample (i.e., that half which had not been used

to identify the predictors and the correlation of these predictor scores with the actual criterion) were obtained for this "cross-validation" sample; in the same way, the "suppressor variables" for each criterion were collected into "suppressor scales" (whose scores were obtained by simple addition). "Predictor" and "suppressor" scales were used in a multiple regression equation. This equation was to be cross-validated on the other half-sample. The "moderator" scales, if any developed, were to be scored and cross-validated in a similar manner.

5. Simple Multiple Regression Analyses. For five criteria, multiple regression analyses were performed. The multiple regression analyses were aimed at discovering relationships involving more than one kind of predictor. As a general method of approach, independent variables were selected from the total number either because they were known to be effective predictors of one or more of the criteria or because they seemed likely to interact with effective predictors. On the basis of results of previous studies and of theories concerning delinquency and school failure, sets of from three to six independent variables were chosen. In combining the independent variables into sets whose effectiveness would be investigated, attention was given to the "domains" of variables involved. Some sets were homogeneous, others heterogeneous, with respect to these domains. The nature of the domains has been indicated in Table II.D.1. These domains are an admittedly arbitrary classification of the variables; however, they help to structure the relationships obtained. The domains were selectively sampled in a series of separate predictive studies.

In the actual computation of the multiple regression equations, the criteria were paired because the computer program made it possible to perform similar analyses on two criteria simultaneously. There were three such pairs of criteria:

a. Behavioral Classification
    1) Delinquent vs. Non-Delinquent
    2) Delinquent + Nominated Behavior Problem vs. Other
b. Teachers' Ratings
    1) Responsibility (rated on a five-point scale)
    2) Emotional Stability (rated on a five-point scale)
c. Modal School Grade Received ("A" through "F"); this variable was paired with Behavioral Classification I.

A variety of studies were carried out, using from three to six independent variables; most commonly, only three independent variables were used, in order to make interpretation easier. In each study the multiple correlation and the multiple regression weights were determined separately for two half-samples. One half-sample contained the odd-numbered cases; the other contained the even-numbered cases.

For each half-sample, the multiple regression weights indicated the optimum linear combination of the independent variables in the set. The multiple correlation indicated the extent to which the criterion was associated with this combination. The regression weights were obtained for both the raw-score and the standard-score form of the independent variables. The latter weights were taken to provide a rough indication of the relative importance of the independent variables in each set.

Many more such studies were planned than could be completed, due to a variety of unforeseen data processing difficulties. Thus, none of the regression studies predicting the criterion of Modal Grade was satisfactorily completed. However, nine studies predicting the two behavioral classifications and nine studies predicting the two teachers' ratings were completed. The sets of independent variables used in each study are listed in Table II.D.2.

In what follows, the sets of independent variables will often be referred to as "predictor sets," even though correlation rather than true prediction is involved.

As can be seen from a comparison of Tables II.D.1 and II.D.2, predictor sets numbered "8" deal with the school and with the student's involvements; sets numbered "9" emphasize family status variables, while sets numbered "10" deal with involvement in various groups. More specifically, predictor set "8A" was chosen to include representatives of the "alienation," "societal," and "sub-cultural" domains of independent variables. Predictor set "8B" sampled only the "academic" domain. Set "8C" represents only the "alienation" domain. Set "8E" is a mixture of the preceding domains. Set "9A" included "family status," as indicated by the father's educational and occupational status, and "academic involvement." Set "9B" substituted mother's educational status for father's. Set "9C" differed from "9A" by the inclusion of a measure of school participation. Set "9D" sampled economic status, involvement in school, alienation from school, and involvement with a correlate of the delinquent subculture, drinking beer. Predictor set "10A" sampled involvement with parents and with school. Set "10B" sampled involvement with correlates of the delinquent subculture.

Cross-validation was also planned as a part of each study. That is, a predicted criterion score was computed for each student in one half-sample, using the regression weights obtained on the basis of the other half-sample. This predicted criterion score was then correlated with the observed criterion score. Whenever time permitted, the cross-validation was to be double, i.e., odd-sample weights were used to predict even-sample criterion values and even-sample weights were used to predict odd-sample criterion values.

6. Multiple Regression Analysis with "Selector" Variables. An additional refinement was introduced into the final analysis. For the same combinations of criteria and the same sets of independent variables used in the simple multiple regression analyses just described, separate multiple regression analyses were performed on sub-samples of the original even and odd half-samples. Each sub-sample was homogeneous with respect to a given variable, such as Father's Occupation (White Collar vs. Blue Collar). The variable defining the sub-sample will be referred to as a "selector" variable. In any one regression study, the selector variable is different from the independent variables and the criterion. The selector variables were, of course, taken from the original list of variables.

The assumption underlying these final analyses was that variables exist, particularly sociological variables, according to which more homogeneous sub-populations may be distinguished, and that these sub-populations would be such that different relationships would obtain between the independent variables and the criterion in different sub-populations. Within such sub-populations, the meaning of various predictors of "failure" would therefore be different. To take a concrete example, a given level of mother's education might have a much greater weight in predicting academic failure if the father's educational level were low than it would have if the father's educational level were high. Selector variables were thus chosen with the idea that they were likely to moderate the pattern of relationships between the independent variables and the criterion in a given regression study. The values of the selector variable were chosen in each case so as to break the total sample up into from two to four relatively homogeneous sub-samples of as nearly equal size as was possible without blurring too greatly the apparent meaningfulness of the division into sub-samples.

The same procedure outlined for the simple multiple regression analyses was followed within each homogeneous sub-sample. That is, the total sample was first divided into odd-numbered and even-numbered half-samples, then into sub-samples according to the values of the selector variable being investigated. Separate regression weights and multiple correlation coefficients were then calculated for each selected sub-sample within the odd and even half-samples, and the results were cross-validated.

In addition to analyses parallel to those performed for the simple multiple regression studies, an additional analysis was separately performed for the total even half-sample and the total odd half-sample. This analysis tested the significance of the difference between the regression weights in the different sub-samples in order to determine the effectiveness of the individual selector variable in breaking down the half-sample into different sub-samples. That is, the regression weights obtained within a sub-sample were compared with the corresponding regression weights in the other sub-samples by an overall analysis of covariance (Williams, 1959, p. 131) to discover if any significant differences existed among sub-samples with respect to these weights. It was expected that significant differences among regression weights would appear in the case of some of the selector variables. If such differences appear, then presumably more accurate prediction, and more precise understanding, would be possible within the sub-samples distinguished by the selector variable in question. Suggestions concerning the nature of "failure" should then be obtainable from the pattern of effective and ineffective combinations of selectors and independent variables.

From a slightly different point of view, significant differences in weights would suggest configural (i.e., interactive) relationships between the selector and the independent variables on the one hand and the criterion on the other. If the same significant differences in weights appear in both even and odd half-samples, evidence for configural patterning (or for the effectiveness of the selector variable approach) would be obtained. The discovery of parallel significant results in both even and odd half-samples is essential, because the sub-samples in the analysis of covariance are often of relatively small size (in one instance as low as 22, often as low as 50), and because the assumptions underlying the significance test are violated. Specifically, the distributions of random variables are usually non-normal and often dichotomous, and the distributions of the independent variables were randomly sampled rather than fixed.

As a further check on the level of correlation actually obtainable from the selector variable model, a cross-validation, similar to that described in the case of the simple multiple regression analyses, was performed for each sub-sample separately. This cross-validation was also performed for the total sample, using the different regression weights from each separate sub-sample to compute the predicted criterion score, then correlating the latter with the criterion score actually observed. Whenever the magnitude of the original multiple correlation warranted, this cross-validation was *double*, i.e., the odd half-sample data were used with the regression weights derived from the even half-sample, and the even half-sample data were used with the regression weights derived from the odd half-sample. (In this way the actual level of correlation which might be obtained in future samples could be more accurately estimated, since it is well known that multiple correlation coefficients usually show "shrinkage" to a greater extent that that predictable by formulae.)

Because of the nature of the computer program used, selector-variable analyses were performed for groups of (usually five) selector variables, for each set of independent variables and each criterion-pair. Table II.D.3 shows the groupings of selector variables used for each predictor-set. As can be seen, the selector variables used with predictor sets numbered "8" deal with economic and educational status. Selector variables used with predictor sets "9" and "10" dealt with sub-cultural, societal, or alienation themes.

In addition to the formal statistical tests just described, several informal tests were applied, such as: (1) Is the pattern of regression weights more similar between the selected half-samples than between the even and odd half-samples? (2) Are the multiple correlations sizably greater within sub-samples than for the total half-sample? (3) Do the *F*s which are large enough to indicate statistical significance appear in corresponding half-samples?

7. Quadratic Regression Analyses. For five sets of five independent variables (corresponding to a set of four independent variables and one of the variables formerly used as a selector variable) a quadratic combination of the five independent variables was used in a multiple regression equation to predict the criterion (Behavioral Classification). All possible squares and cross-products of the five independent variables were used in addition to the variables themselves; in all, 21 parameters were thus estimated by least squares in this model. Compare this figure with the selector model, in which from 10 to 20 parameters were estimated, according as the number of levels of the selector variable varied from two to four. It was expected that this greater number of parameters to be estimated would lead to a higher multiple correlation, which would however shrink on cross-validation to a much lower value than the cross-validation correlation obtained with the selector model. The basis for this expectation was that the merely empirically obtained weights of the quadratic model would not be as stable under sampling as would the rationally obtained within-subpopulation weights gathered by the selector model. This test of the selector model pitted one kind of configural structure and approach--obtained by judgment and a commitment to the notion of a "predictive typology"--against an alternative kind of configural structure and approach obtained by a blind fitting of a second degree (quadratic) power series. While this comparative purpose guided the inclusion of the quadratic model in this investigation, it was assumed that the relative size of the regression weights obtained with the quadratic model would also shed light on the nature of the phenomenon of "failure."

ANALYSES OF THE DATA AND FINDINGS

A. Relationships Among the Criteria

From the "validation" sample of 418 students on whom intercorrelations among the 198 variables of the study were obtained, the intercorrelations among the eight proposed "criteria" of failure have been taken; they are presented in Table III.A.1. Inspection of Table III.A.1 reveals:

1. The two measures of "Behavioral Classification" are highly intercorrelated (.835); on the basis of this evidence they will serve equally well.

2. The two Teacher Ratings are also highly intercorrelated (.784).

3. The latter two variables are moderately correlated (.504, .425) with Modal Grade (which is itself a kind of average teacher rating).

4. The self-report variable, "Not doing well in school," correlates moderately with Modal Grade (.450) and to a lesser extent with Teachers' Ratings (.364 and .260). These four variables form a cluster indicating the student's success in high school, as perceived by himself and his teachers.

5. The variables derived from the Coleman circles ("Distance....") do not correlate with the other criteria. Whether this lack of correlation indicates that the social domains tapped by the circles are independent of the domains tapped by other criteria or that the circle measures are unsuited as criteria of failure is not clear from these intercorrelations.

6. Modal Grade occupies a central position in this criterion space.

B. First-Order Relationships Between the Independent Variables and the Criteria

Those variables correlating at a level of significance greater than .001 with one of the criteria were listed as potentially valid predictors of that criterion. (For a sample of 400, α = .001 requires a correlation at least .166 in magnitude.) These variables are listed in Tables III.B.1 through III.B.8; each table reports the variables significantly associated with one criterion. A number of the variables were significantly associated with all five of the criteria dealing with academic failure or delinquency. These variables are listed separately in Table III.B.9.

1. Grades. As might be expected, Table III.B.1, which lists variables associated with high grades-low grades, contains a variety of content. Variables like low parent educational level, low status expectations, no plans for college, preference for shop and physical education courses as opposed to science or mathematics, lack of goal-setting, all suggest non-middle-class identities. Variables such as inability to be elected to offices in school organizations, friends who have graduated and gone to work, part-time work, hours visiting friends, smoking, drinking, delinquent friends, and car ownership suggest a subcultural component to failure to get good grades. Alienation is suggested by variables which include the choice to go with friends rather than to a school rally, rating the school

and city less than excellent, stating that one is unable to keep up with the rest and that school is dull and boring, few hours extracurricular activities at school, rating leadership in athletics or school activities as being non-status-conferring, and considering skipping school as non-delinquent.

2. Delinquency. As the case with grades, there is a variety of content among the predictors of delinquency. There seem to be two general domains within which many of the important predictors of delinquency fall. First, there is a general domain of engagement in school activities and the school as a social institution. For example, delinquency is related to such things as not planning to go to college, liking physical education, alienation from high school, agreement that school is dull and boring, and not doing school work at home. A second general domain appears to be that consisting of involvement in a subculture of peers. Thus, as an illustration, delinquency is related to going out with friends, the choice of going with friends rather than to a school rally, and not spending time at home with the family. The problem component of this peer behavior is suggested by the correlation of delinquency with knowing persons who have been in trouble with the police, smoking, drinking, and car ownership. While this should not be interpreted as conclusive evidence, this network of relationships suggests the existence of an "outsider" peer culture. On the one hand, this culture is uninvolved in and alienated from the school; on the other hand, it is very much involved in a range of "problem" activities. One of the most significant aspects of this set of predicting variables is the absence of socio-economic factors. Much of the current sociological literature suggests that social class is a fundamental variable in the development of patterns of juvenile delinquency. This data would not support this interpretation. Instead, school adjustment and peer culture involvement appear to be much more important.

The correlations of Behavior Classification II are very similar in pattern to those of Behavior Classification I, but uniformly lower; therefore they are not separately reported.

3. Teacher's Rating of Responsibility. The pattern of predictors in the teacher's rating of responsibility is quite comparable to the pattern noted with respect to the prediction of grades. A negative relationship between this rating and what might be termed a "middle-class identity" is shown in the association with such things as low status of father's occupation, low level of mother's education, low occupational status expectation, no plans for college, and preference for shop courses rather than science and mathematics. The fact that this evaluation on the part of the teacher has a close relationship to the views of the student is seen on such self-evaluation items as agreement that the student is not able to keep up with the rest, and that one person doesn't count much in the kind of world we have today. Behavioral and attitudinal alienation is shown here in such things as the correlation of the teacher's rating with hours spent in school work at home, time spent in extracurricular activities at the school, alienation from both the city and the high school, and agreement with the statement that school is dull and boring. Once again, the evidence suggests a strong subcultural component related to this variable since we notice high correlations with such things as evenings spent with friends, having friends who have either dropped out of school or are working, exhibiting a choice of going with friends rather than to a school rally, smoking, drinking, and car ownership.

4. Teacher's Rating of Emotional Stability. This variable did not show the range of predictors seen in the other variables. In this instance, there seemed to be three relatively distinct and pure factors operating. First, a series of school engagement variables emerge as important predictors. Among these are "college plans," "doing school work at home," "having as a favorite an academic subject," and "participation in extracurricular activities." Some of the subculture items again appear as predictors, including "evenings spent with friends," "the choice of going with friends rather than to a school rally," and "drinking." A new factor which emerges in this matrix is geographic mobility since both "years at the present address" and "number of high schools attended" show a significant relationship with the teacher's rating of emotional stability.

5. Self-Report: "Doing Well In School". In turning to this aspect of failure (i.e., the self perception of failure), we begin to observe a different pattern of relationships from those we have seen before. In general, this aspect of failure seems to show its most important relationships with regard to a wider range of attitudinal items. For example, the psychological "pain" of this negative self-evaluation is shown in the agreement with such statements as "I am often not able to keep up with the rest," and "Nobody pays much attention to my opinion of things." The general dimension of school engagement does seem to be present since feelings of not doing well in school are correlated with non-college plans, liking shop and physical education courses, agreement that school is dull and boring, and not spending time on home work. In this instance, the subcultural items do not seem to be as closely related to a general "trouble-making" dimension but seem more restricted to school variables. (For example, the choice of going with friends and not to a school rally, and having friends who have dropped out of school.) It is interesting to note again in this instance that middle-class background factors do not predict the perception of failure although the perception of failure does seem to carry with it recognition that a very likely result of failure will be a low status occupation.

6. Self-Report: "Distance From the Center of Things". As was the case with the previous variable, the perception of one's self as being outside the center of things seems to show its stronger relationship with a more general set of attitudinal items. In this instance, however, there seems to be some quality of difference in the items in that seeing one's self as out from the center of things seems to be more closely related to items having to do with the activities aspect of school life. Thus, for example, it is highly related to time spent in extracurricular activities, dating, club membership, holding office in school organizations, and agreement with the statement "There are a few who control things in this school and the rest of us are out in the cold." At the same time, there is present here a general alienation dimension as shown in the alienation from city and high school and the fact that the community is rated poor on general opportunity and the local public school system is also rated as poor by the student.

7. Self-Report: "Distance from where one would like to be" and

8. Self-Report: "Distance from where one would like to be" (if greater than zero). Criteria 7 and 8 were based on discrepancy scores between real and ideal position in the social life of the school. Such contrived discrepancy scores are known to be relatively less likely to show relationships to other variables. This general tendency is shown in the present instance; there are few significant

correlations, all low. The few correlates of this discrepancy relate to age or class in school, low self-evaluation in the interpersonal sphere, and little dating. These criteria seem indeed to be measuring "social failure," but their relative lack of correlates made them unsuitable for study in this universe of variables, and they were dropped from the program of more complex analyses as unlikely to be fruitful of new results.

Summary: Four General Predictors. While each of the above variables tends to have a very different character in the pattern of predicting variables, there are four variables which stand out as predictors in all six tables, these being "non-college plans," "hours spent in school work at home," "alienation from high school," and "the choice of going with friends, not to a rally." What appears to be suggested by these findings is that the non-engagement of students who are work-bound as opposed to college-bound is reflected in their non-engagement in school work, accompanied by alienation and perhaps resulting in a peer identification as a response to the failure to obtain a significant attachment to the school as a social institution. Such a conclusion should be viewed as extremely tentative, however, since it implies a statement of a sequence of changes taking place over time which cannot be tested by correlational data.

C. Results of the Search for "Suppressor Variables."

All the relationships presented in Section B of the Analyses of the Data and Findings involve one predictor and one criterion. If a second predictive variable is introduced, the predictive effects of the two predictors cannot simply be added. Any two variables have a joint effect in predicting a criterion. This joint effect may act in the same direction as the independent effect of each variable, or in the case of one or both it may cancel or overcome the independent effect. Should the joint effect overcome the independent effect, the latter must be small, and the variable is useful, not by virtue of its independent relationship with the criterion, but through the intermediary of a second predictor. It must then show a substantial correlation with that second predictor, in which case it is said to be a "suppressor." Specifically, if both validity coefficients/1 have the same sign, the intercorrelation of the two predictors should be greater than the ratio of their validities; if the validity coefficients have opposite signs, the negative of the intercorrelation of the two predictors should be less than the ratio of their validities. The importance of distinguishing these effects is not in attaining predictive success, which could be obtained by blindly using multiple regression formulae, but in the aid which interpretation and understanding gain from the notion of "suppressor" variables. Hence a deliberate effect was made in the present study to construct such suppressor scales by combining suppressor variables operating on the same set of predictors. It was felt that the strictness of the requirement stated above (the ratio of validities having to be smaller in magnitude than the intercorrelation) might cause possible suppressor effects to be overlooked, and hence a less rigorous requirement was applied for a first screening, i.e., a suppressor had to correlate less than ±.167 with the criterion and more than ±.166 with a predictor. Using

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[1] The product-moment correlation of a "predictor" with a "criterion" is known as the "validity-coefficient" of the predictor.

this rule, the candidates for suppressor variables appearing in Tables III.C.1 through III.C.8 were obtained.

If these tables are inspected, it will be seen that only one suppressor variable met the strict requirement that its correlation with the predictor exceed the ratio of its validity to the predictor's validity[1]. This variable was 13, "Rates low: Drinking" in relation to the criterion "Teacher's rating of Responsibility" and the predictor 196, "Do you drink beer?" For this combination the ratio of the validities is -.324, which is less in magnitude than the intercorrelation of the predictors, -.353. However, the difference is so small as to be interpretable as a chance departure from a complete cancelling of the joint and independent effects. Many, if not most, of the remaining "suppressor candidates" found by this search can be interpreted as chance departures (in the opposite direction) from such a complete cancelling. They are exhibited in Tables III.C.1 through III.C. 8.

Although little if any evidence for suppressor effects was uncovered in this systematic search through all correlations of the 190 predictors, the fact that Tables III.C.1 through III.C.8 exhibit variables nearly cancelling the validities of the other variables is of some interest. That is, partial validities of the "suppressors" at the top of each table are nearly zero when the predictors in the body of the table are taken into account. For example, a "low status father's occupation" predicts "low modal grade" to some extent. (See Table III.C.1.) But if one examines the relation of this predictor to 59, "low father's educational level," one sees that the weak predictive power of father's occupation is almost entirely mediated by the latter, stronger predictor. Variable 57, "plan not to go to college," is a stronger predictor which could account for almost all of the relationship between father's occupational status and modal grade. That is, the valid predictor mediates any relationship which the "suppressor candidate" may have with the criterion.

Similar understandings can be gained from an inspection of the predictors showing relatively large intercorrelations in the remaining "suppressor" tables. These tables should be useful when examined for such "cancelling" effects (viewed in terms of the correlations appearing in the numerator of the partial correlation). Where such cancelling occurs, the predictor variable in the body of the table may be viewed as possibly mediating any relationship which exists between the "suppressor candidate" at the top of the table and the criterion. In Table III.C.2, relating to delinquency, the most noticeable mediating variables are numbers 57,195, 196,197, relating to non-college plans and subcultural indicants. The latter three variables are again prominent in Table III.C.3, in which the criterion is the Teacher's Rating: Responsibility.

Since the "suppressor candidates" are necessarily correlated with the more valid "mediating" variables, Tables III.C.1 through III.C.8 enable one to make finer discriminations about the essential correlates of the criterion in question. Given a cluster of variables including a suppressor candidate and one or more valid predictors from one of the tables, the suppressor candidate represents part of the cluster that is not essentially related to the criterion, in the sense that the valid predictor is sufficient to account for any validity shown by the suppressor candidate. For example, from Table III.C.2 one might guess that liking to take shop, working part-time, and regarding skipping school as non-delinquent, while associated with the variables listed in the body of the table, contribute unique aspects to the cluster that are not associated with delinquency; the sufficient correlates of delinquency for this cluster are variables such as smoking, drinking, and lack of college plans. Thus, should it be suggested that a suppressor candidate in one of the Tables III.C.2 through III.C.8 is an indicant of delinquency, one would be led by these data to argue instead for the valid predictors listed in the body of the corresponding table.

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[1] However, an additional suppressor was found for Criterion 1, Modal Grade, when Criterion 5, Not Doing Well in School, was considered as a predictor of modal grade; this suppressor was variable 94, "Able to keep up with the rest." The suppressor effect was quite small, however, the partial correlation between 1 and 94 with 5 held constant being -.052

In summary, no true suppressor variables were found. The candidates that were turned up, however, may be of use when associated with their more valid predictors in understanding the essential nature of the criterion.

While there is no evidence that an individual variable acted as an effective suppressor, it is conceivable that scales composed of sums of like-acting variables might show suppressor effects. This possibility was explored and will be examined in Part E of this Section.

D. Results of the Search for "Moderator Variables"

While the computer program for the construction of "moderator variables" seemed simple enough in the planning stage, numerous difficulties were encountered in writing a satisfactory program. These difficulties were compounded by the distance of the 7090 installation and a change-over to a "direct-coupled monitor" mode of operation; given the limited time and scope of the grant, the difficulties proved insuperable. While "results" were obtained with the program as written, they are nonsensical. Too many apparent "moderator variables" are listed, and their significance, if any, is unclear. Further work with this program is necessary before the attempt to construct moderator variables can be used in a substantive investigation.

E. The Construction of Composite Scales

Excellent validities were obtained when the individually predictive items were combined into scales. The number of items in each scale and the correlations of each predictor scale with the corresponding criterion are presented in Table III.E.1. The items belonging to each of the scales are listed in Appendix II. (They include a few items in addition to those presented in Tables III.B.1 through III.B.8 because a cutting point of .15 was used instead of .166. For interpretive purposes, however, the two listings are essentially the same.) "Suppressor" scales were also constructed (again the cutting point of .15 was used in place of .166), containing the items associated with a given criterion. These were usually quite short and circumscribed with respect to their content. The items belonging to these scales are also listed in Appendix II; they are essentially those presented in Tables III.C.1 through III.C.8.

The predictor scale and the suppressor scale corresponding to a given criterion were used in a two-variable multiple regression equation to predict that criterion. The standard-score regression weights for the two scales are presented, together with the multiple correlation attained, in the right-hand columns of Table III.E.1. For the "suppressor scale" actually to have operated as a suppressor variable, its regression weight should be negative. As can be seen from the size of the regression weights in Table III.E.1, at least five of the suppressor scales had a negligible effect, and half of the scales did not operate as suppressors at all. In the case of the criterion of Modal Grade, the single item composing the "suppressor scale" has a nearly significant validity (-.134) and is clearly operating as an additional predictor, albeit not a very important one. The closest approach to a suppressor variable appears in connection with the fifth criterion, "Not doing well in school." Three items comprised this scale, two relating to father's occupation and education, the third relating to alienation from the city. A consideration of Tables III.B.5 and III.C.5 suggests that this suppressor scale might remove from the predictor scale variance associated simply with a background unfavorable to involvement in school; as a result of the predictive utility of items such as "college-bound," "academic course choice," and "hours schoolwork done at home" is increased. It is interesting to note that economic status variables (and possibly family background variables generally) seem to operate not so much as predictors but rather as variables qualifying the significance of the best predictors of high school "failure."

Apparently there are no suppressor effects here worth investigating further. One may expect a considerable shrinkage in the correlations on cross-validation, and it would be surprising if the suppressor scales were useful as such in the cross-validation. The predictor scales, on the other hand, appear to promise useful predictive validity. Further studies of their validity, particularly their differential validity, should be conducted.

With the exception of criterions 7 and 8, the predictor scales developed in the odd sample do reasonably well (are statistically significant) in predicting within the even sample. The cross-validation validities are found in Table III.E.1. Examination of the table will reveal scales involving a larger number of items to be more predictive in the original sample and in the cross-validation sample. This kind of relationship represents a common finding while constructing and validating scales of this type.

The use of scales of this type in singling out "failures" would be of considerable value in guiding research into methods of remedying the problems posed by these "failures." Even though some individuals would be misclassified using these scales, the potential gains over a scale having only face validity would be tremendous.

F. Results of the Simple Linear Multiple Regression Analyses

In the simple linear multiple regression studies the sample sizes ranged from approximately 200 to well over 300 in both the even-numbered and the odd-numbered half-samples. With such large samples the statistical significance of the multiple correlation is a relatively less important consideration than whether the magnitude is sufficiently large to be useful. For example, if the sample size is 200, a correlation of .15 will be significant at the 5 percent level; such a low magnitude is of little import, representing only 2-1/4 percent of the variance in the criterion. On the other hand, a correlation of over .30 suggests that 10 percent of the criterion variance can be accounted for, and the contribution of the independent variables can no longer be entirely disregarded.

The 72 values of the multiple correlation obtained in the simple linear studies ranged from .06 to .67. They appear, in parentheses and underlined, in Table III.F.1. All but three are significant at the 5 percent level. Also presented in Table III.F.1, above each multiple correlation, are the standard-score regression weights of the independent variables used in the equation. Results for four criteria are presented in Table III.F.1. For each criterion, parallel results are summarized for the even and the odd half-samples in adjacent columns, except for predictor set 9C, for which the odd half-sample analyses were incorrect. The analyses involving the fifth criterion, Modal Grade, were spoiled in data processing; no accurate results were obtainable.

It is clear that the two Behavioral Classifications were more difficult to predict from these data than were the two Teacher's Ratings; the multiple correlations with Teacher's Ratings were in almost every case higher than the multiple correlations with the Behavioral Classifications. Moreover, Behavioral Classification II was predictable with uniformly higher multiple correlations than was Behavioral Calssification I. An explanation for this difference may lie in the less skewed dichotomization of Behavioral Classification II. The groups whose behavior is to be distinguished from the majority's is quite small in Behavioral Classification I (30-50 cases); when this small group of Delinquents is augmented by the Nominated Behavior Problems, the larger group can apparently be distinguished more easily.

In general, there is good agreement between the results obtained for the even and the odd numbered half-samples. As can be seen from the regression weights, the Behavioral Classifications seem to be predictable, if at all, from a single variable in each set ("Drink Beer" in sets 8A, 8E, and possibly 9D; "Modal Grade" in set 8B). Teacher's Ratings, on the other hand, if predictable to any considerable extent, seem to be associated with a greater variety of the independent variables ("Drink Beer" and "Number of School Organizations" in 8A, 9C, and 9D; to a lesser extent with "Like School" in 8A and 8C, "IQ Score" in 8B, and "Course Emphasis" and "Mother's Education" in 9A and 9B). "Modal Grade," the most heavily weighted independent variable of all (8B), is of course itself a kind of teacher's rating. It is of note that socio-economic status variables like "Father's Occupation" and "Father's Education" were relatively unimportant in predicting Teacher's Ratings, and that sets 9A and 9B, which included these as well as "Major Course Emphasis" and "Mother's Education," were relatively less predictive of Teacher's Ratings than sets 8A, 8C, 9C, and 9D which depended on measures of involvement in the school or the delinquent subcultures. It is also of interest that the achievement test score seems to add little to the prediction of Teacher's Rating beyond "Modal Grade's" contribution, although the intelligence test score does add something.

Even when results are based on samples as large as these half-samples the sampling instability of regression weights is such that not too much meaning should be attached to the relative rank order of the regression weights unless the differences in the coefficients are large. As can be seen from a comparison of the "Even" and the "Odd" columns of Table III.F.1, only for the studies showing the largest multiple correlations is there close agreement between the patterns of large and small regression weights obtained in the two half-samples. For example, in predictor set 8C, the independent variables "Like School" and "Keep Up" reverse their relative importance in the Even and Odd half-samples. When larger differences among the regression weights are evident, as is the case for predictor set 8B, the relative rank order of the regression weights is maintained between the two half-samples.

How much do these linear combinations of three or four variables improve over the correlation attainable from single independent variables? At least with respect to these domains of variables--e.g., economic status, alienation, involvement with school or the delinquent subculture--there was no noticeable gain in the degree to which Behavioral Classification I was correlated with the independent variables beyond that obtained from the best single independent variable from the academic or subcultural domains. (Compare Table III.F.1 with Table III.B.2.) Behavioral Classification II did show slightly greater multiple correlations than simple correlations. Teacher's Ratings showed more complex relationships to the independent variables than did the Behavioral Classifications, and Teacher's Ratings appeared to show higher multiple correlations with the sets of independent variables than correlations with the individual independent variables. (Compare Table III.F.1 with Tables III.B.3 and III.B.4.)

Cross-validation of these multiple regression studies would show decreases in the values of some of these multiple correlations. In view of the large size of the half-samples and the small number of independent variables used in any one study (only three or four), the shrinkage of the multiple correlation coefficients on cross-validation should not be too great. This expectation is reinforced by the cross-validations reported for closely associated multiple correlations in the following section; very little shrinkage occurred. Unfortunately, no actual cross-validations of the present simple multiple regression analyses were completed as of this date.

In summary, delinquency or problem behavior was associated to any degree only with a subcultural independent variable ("Drink Beer") and with an academic variable (school failure as measured by "Modal Grade"). In contrast, Teacher's Ratings on two "social" variables ("Responsibility" and "Emotional Stability") were associated with participation, alienation, and drinking, i.e., with peer societal and subcultural variables. The strongest correlation of Teacher's Ratings was "Modal Grade" (a kind of teacher rating). Not predictive of any of the four criteria were measures of family economic status.

G. Multiple Regression Analyses with "Selector Variables"

As described in Section D of Analyses Performed, the odd and even half-samples were broken down into subsamples according to the selector variables described in Table II.D.3, and separate multiple regression analyses performed on the resulting two to four subsamples. The frequency distributions of the criteria and of the independent variables were occasionally characterized by somewhat small frequencies within these subsamples; in fact, some studies which had been planned had to be abandoned because the frequencies were so small that zero variances resulted. In Tables III.G.1 and III.G.2, the frequency distribution of two criteria, Behavioral Classification I and Behavioral Classification II, broken down according to the values of five different selector variables, are presented. These frequencies describe the data used in a representative study (8C). The overall distribution of the four predictors is also given at the top of the table. Tables III.G.1 and III.G.2 give some insight into the random differences introduced by the division into odd and even half-samples, the skewed distribution of the Behavioral criteria, and the occasional small subsample sizes, e.g., only 55 students in each half-sample rated their housing as "Excellent," and only 44 and 45 students said their mothers were not high school graduates. The large size of the half-samples and the generally large size of the subsamples is also indicated. In these regression studies, the half-samples typically consisted of over 250 students, and were never less than 190. The subsamples varied considerably in size; the sizes are presented in Tables III.G.4 through III.G.25.

The frequency distributions of the Teacher's Ratings criteria were symmetrical and bell-shaped over the five-point rating scale. The predictors occasionally had skewed distributions, as in the case of "Drink Beer" ("no," 308; "occasionally," 200; "regularly," 45).

The goal of these analyses was the discovery of different patterns of regression weights in different subsamples. Significant differences in regression weights indicate the presence of an interaction between the selector variable and the independent variables; they suggest that there are different correlates of "failure" within different segments of the population. In contrast, the simple linear regression analyses just described in Section F of Analyses of the Data and Findings indicate only average relationships holding across the entire population.

In all, 188 significant tests were performed, 94 on the odd-numbered half-sample and 94 corresponding tests on the even half-sample. Thus, 94 studies were carried out. These used the selectors listed in Table II.D.3 in combination with the correspondingly numbered predictor sets listed in Table II. D.2. The results are summarized in Table III.G.3. The statistical test (of equality of slopes on the regression planes) used the _F_ statistic at the 5 percent level of significance. Fifteen significant _Fs_ were found. Having performed so many _F_ tests one might expect perhaps 10 to be significant by chance (5 percent of 188 = 9.4), the exact number being impossible to specify. Thus serious attention should only be paid to those instances in which the _Fs_ obtained from both the odd and even half-samples gave significant _Fs_ or, less conservatively, only to those instances where one _F_ was significant and the other was at least nearly significant. Using this criterion, the only instances of significant differences in regression weights among subsamples occur when Father's Occupation or Father's Education is used as the selector variable and when Behavioral Classification II is the criterion. This effect occurs in connection with the "involvement, alienation, and subcultural" predictor set 8A and the "mixed" predictor set 8E, but _not_ in connection with the "academic" predictor set 8B. (See Table III.G.3.)

While significant effects occur with respect to Teacher's Ratings as criteria in the odd-numbered half-sample, they are not replicated in the even-numbered half-sample. One reason for this discrepancy between half-samples may be the small size of one of the subsamples which results when "Father's Education," "Mother's Education," or "Rating of Own Housing" are used as selectors. In such studies, subsample sizes of less than 100 cases should probably not have been used, as the fluctuation in regression weights becomes too great for interpretive comfort in small subsamples. In addition, departure from the underlying assumptions of the significance test is less important in subsamples, and it will usually be the case that the underlying assumptions are not met.

It is possible that the significant _F_ obtained for the even half-sample in connection with predictor set 9A and the selector variable "Rate School Excellent" would be replicated on the odd half-sample. Since the results were spoiled for the odd half-sample, one cannot be sure. However, the interaction involved turns out to be an interaction of "Rate School Excellent" with "Father's Occupation" and "Father's Education." This is the same interaction which appears significant in connection with predictor set 8A; set 8A includes "Rate School Excellent" as an independent variable. Thus the essential configural effects discovered involve only variables in set 8.

These will now be discussed in more detail.

The standard-score regression weights for the independent variables of set 8A, in the even and odd half-samples, within five subsamples, are presented in Table III. G.4. The five subsamples were the two obtained according to the selector variable "Father's Occupation" and the three obtained from "Father's Education"; the between subsample differences were significant or nearly significant in both half-samples.

From Table III.G.4 it seems clear that the configural effect of "Father's Occupation" involves only the variable, "Do you drink beer?". "Drink beer" is significantly more predictive of behavior problems in sons of white-collar fathers than in sons of blue-collar fathers. Thus "Father's Occupation," which was surprisingly not a predictor of behavioral difficulties when considered alone, emerges as an effective pre-condition for the full force of the subcultural indicant, "Drink beer," to operate in predicting behavior problems.

The same kind of interaction is involved in the possibly replicated finding relating to predictor set 9A (not presented in Table III.G.4); "Father's Occupation" is related to behavior problems _if_ the son is alienated from high school (rates it as less than "excellent"), but "Father's Occupation" is unrelated to behavior problems if the student sees his school as "excellent."

The effect of "Father's Education" is somewhat harder to interpret in Table III. G.4, possibly because of the instability of the regression weights in the small "non-high school graduate" subsample. It may be that the occurrence of significant _F_s in both even and odd half-samples was fortuitous in this instance as there is little agreement in the pattern of regression weights. The weights of "Drink beer" seem to fluctuate in the even half-sample, while the weights of "Rate high school excellent" fluctuate in the odd half-sample.

On the basis of all the evidence, however, it seems fairly safe to conclude that both the subcultural indicant, "Drink beer," and the alienation measure, "Rate school excellent," have a significance which depends on the occupational and educational level of the father, i.e., on socio-economic class.

A possibly significant effect was previously noted in connection with predictor set 8E. Since this set had previously been chosen as a basis for a comparison of the "Selector Model" with the "Quadratic Model," the "Selector" results will now be examined in some detail.

In set 8E, a mixed group of four independent variables were used. They were:

"Do you drink beer?" (yes)
The student's Achievement Test score.
Disagree: "School is dull."
Rates low among boys: "Stirring up a little excitement."

In the whole even half-sample of 298 students, a multiple correlation of .33 was obtained. In the odd half-sample, the multiple correlation was .39. The pattern of standard-score regression weights for the four independent variables was very similar in the two half-samples. Only "Drink beer" showed an appreciable weight in the regression equation predicting Behavioral Classification II.

The effects of subdivision of the total half-samples according to the five selector variables relating to education or economic status were examined. Selector variables used, and their values were:

Father's Occupation: Blue-collar; white-collar
Father's Education: College; high school; non-high school grad.
Mother's Education: College; high school; non-high school grad.
Rating of own housing: Excellent; very good; good; average through poor
Major Course Emphasis: College prep; non-college prep.

In this study, as in the others, the multiple correlations obtainable within the subsamples were in every case higher for one subsample than for the total sample, and lower for another, so that the multiple correlations obtained for the total samples were apparently "averages" of those obtainable within the stratified subsamples. The latter ranged from .27 (Father's Occupation, white-collar) to .45 (Father's Education, non-high school graduate) in the even half-sample and from .21 (Father's Occupation, blue-collar) to .57 (Mother's Education, non-high school graduate) in the odd half-sample. While one significant difference (see Table III.G.3) between *regression weights* in the different subsamples was found (in the even half-sample, "Father's Occupation" F = 2.65, 4 and 288 degrees of freedom), it did not quite reach significance in the odd half-sample (F = 2.08). In the odd half-sample, "Mother's Education" showed significant differences among the strata regression weights, (F - 2.27, 8 and 283 degrees of freedom), but there was no confirmation whatsoever for this pattern in the even half-sample. "Major Course Emphasis" showed significant differences in the pattern in the even half-sample (F = 2.54, 4 and 288 degrees of freedom) but none in the odd half-sample.

These conflicting results with respect to the configural effects of the selector variables on set 8E bear out the importance of replicating studies on parallel half-samples, particularly when strata subsamples are of unequal size, as was the case for "Mother's Education," "Father's Education," and "Rating of Own Housing." Moreover, the pattern of regression weights did not seem to be particularly dependable from even to odd half-sample. In fact, shifts in the relative size of regression weights were often as large between half-samples as between strata subsamples. The large multiple correlations were often, but not always, obtained within the smaller strata subsamples, which would, of course, be the least dependable.

There is, in any case, clear evidence for the existence of configural effects involving socio-economic status as measured by "Father's Occupation" and set 8A. Does this configural effect result in greater multiple correlations with the criteria, and do the correlations obtained with the use of the selector variable hold up in new samples, i.e., under cross-validation? In Tables III.G.5 through III.G.24, the multiple correlations ("validities") obtained with the selector-variable model are presented, along with the correlations between predicted score and actual score in the other half-sample ("cross-validities"), for the four criteria and for the selector-predictor combinations 8A, 8B, 8C, 8E, 9A, 9B, 9C, and 9D. For 8A, 8B, 8E, the cross-validation is double. These results may be summarized by stating that there is remarkably little decrement in the correlation on cross-validation. On the other hand, the level of correlation achieved in predicting Behavioral Classifications I and II may appear low. Indeed, there does not seem to be a great deal of evidence that the division into subsamples will produce enduring increments over the multiple correlation obtained from the total sample, *if the whole population is used to evaluate the degree of correlation achieved*. However, *within the subsamples*, remarkably high correlations between the multiple regression estimate and the actual criterion appear in some subsamples, notably with respect to Teacher's Ratings even after cross-validation. Thus, if one is willing to use a given predictor set within a certain subsample only, remarkably good prediction may be achieved (e.g., the "College" subsample in Tables III.G.13 and III.G.14). Possibly a different predictor set would be equally effective for the remainder of the sample in these cases.

The relatively small shrinkage on cross-validation raises the question, in view of the apparent instability of the regression weights from even to odd half-samples, of how important the regression weights themselves are. Perhaps shifts in the intercorrelations of the predictors, of little overall predictive significance, cause the regression weights to be relatively unstable and hence difficult to interpret.

H. Configural Model Analysis

As a basis for evaluation of the "Selector Model," a different but likewise configural model was tried. A quadratic combination of the four predictors and one selector was used in a multiple regression prediction of the criterion. Five such studies were done on set 8E, one for each of the five selectors separately. That is, a regression equation with 20 variables was used to predict the criterion--the four predictors and a selector, the squares of these five variables, and the ten products of pairs of the five variables. The multiple correlations obtainable with this model were calculated for both half-samples before and after the shrinkage resulting from cross-validation. The multiple correlations before cross-validation were higher with this quadratic model, ranging from .44 to .49 in the odd half-sample and from .42 to .46 in the even half-sample. These were spuriously high, however; with cross-validation they shrank to values almost exactly equal to the cross-validated correlations obtainable using the selector model. (The cross-validation correlations ranged from .26, "Father's Occupation" to .32, "Major Course Emphasis" in the even half-sample; from .27, "Father's Occupation" to .35, "Father's Education" in the odd half-sample.) Details are presented in Table III.G.10.

In summary, for predictor set 8E both configural models give a moderate amount of predictability after cross-validation, and it is questionable whether either offers a gain over a usual linear regression across the whole sample. There are several suggestions that Variable 196 ("Drinks beer") changes its importance with change in subsample, but there is not sufficient consistency in this analysis to draw any firm conclusions.

CONCLUSIONS

These results suggest that configural effects involving socio-economic status indeed do exist, and that programs should be aimed at different goals within the two classes studied. The limitation of the population studied--a hinterland city with few extremes on the socio-economic scale--should be borne in mind in interpreting the results. The lack of true personality measures should also be borne in mind. Measures such as the MMPI high-point code used by Hathaway and Monachesi or the delinquency scales of Quay and Peterson might well improve the predictive power of the subcultural indicants and the socio-economic selectors of the present study.

On the negative side, fewer selectors or configural effects were found than were expected. On the positive side, the stability of the regression model under cross-validation was greater than might be expected for a "configural" model.

No suppresor variables were found, and this approach does not seem promising. As a by-product, however, interesting clusters of variables were found in the sense that the variables contributed nothing beyond the contribution of correlated, better predictors.

The moderator variable technique could not be tested in the time available.

Whether the use of a subcultural indicant ("Drink beer") as the second stage in a sequential assessment of which the first stage is Family Socio-Economic Status appeals to a greater extent than simple linear combination of variables will probably depend on the individual investigator. Certainly the selector model seems preferable to the quadratic, in view of its relative freedom from spuriously high multiple correlations before cross-validation.

Certainly also the selector model demonstrated the importance of economic status in a sample from which linear methods failed to show its significance.

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Table II. B. 1: Representative rates of missing data and non-response

Missing Data in School Records

Variable	Number of cases on whom data were missing
Intelligence test scores	310
Modal Grade	12
Achievement Test Score	51

Non-response to Individual Questionnaire Items

12. Total in-school organizations	72
14. Total non-school organizations S belongs to	108
59. Father's educational level	60
68. Proportion of friends who have dropped out of school	160
86. Own parents rules more strict than friends parents	44
95. There are a few who control things in this school, and the rest of us are out in the cold.	11
170. Number of teenage boys personally known who have been in trouble with the police.	152
196. Drink beer	44

Table II. D-1. Domains from which Independent Variables Were Taken in Regression Studies

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Indications of economic and educational status of family:
    Low status father's education (white collar-blue collar)
    Low father's educational level
    Low mother's educational level

Family situation and background:
    Number of siblings
    Doesn't live with both parents
    Rating of own house (1 = excellent to 7 = very poor)
    Years at present address
    Own parents more strict than friends' parents (more, same, less)

Academic qualifications:
    Intelligence test score
    Achievement test score
    Modal school grade received

Involvement in school society and sub-societies:
    Major course emphasis (college prep vs. other)
    Year in school (soph., jun., sen.)
Number of days absent
    Number of school organizations in which respondent is a member
    Hours school work per week done at home

Involvement in community outside of school:
    Number of non-school (community) organizations to which respondent belongs

Involvement with parents:
    Spare time spent with father during past week
    Spare time spent with mother during past week
    My parents always know where I am and what I'm doing

Involvement in delinquent society or subcultural links:
    Lack of friends who have dropped out of school
    Lack of friends in high school
    Number of teenage boys respondent knows personally who have been in trouble with police
    Not status conferring with boys: Stirring up a little excitement
    Hours per week spent going out with friends
    Do you drink beer? (Yes)

De-evaluation of or alienation from high school or community:
    Alienation from city (1= excellent to 5 = poor)
    Alienation from high school (1 = excellent to 5 = poor)
    Disagree: School is dull and boring (6-point scale)
    Disagree: There are a few who control things in this school and the rest of us are out in the cold
    If school were not compulsory, would leave before graduating

Evaluation of self relative to school society:
    Doing well in school (1 = strongly negative to 6 = strongly positive
    Disagree: I am often not able to keep up with the rest

NOTE: The wording of the variables has been abbreviated and altered from that of the items in the questionnaire in order to make the variable read so as to identify the numerically high end of the scale.

Table II. D-2. Sets of Predictors Used in Multiple Regression Studies

Set No.	Variables In Set	Abbreviated As
8A	Alienation from high school (1=excellent to 5=poor)	Like sch.
	Total no. school organizations	Sch. org.
	Do you drink beer? (yes)	Dr. beer
8B	Intelligence test score	IQ score
	Achievement test score	Ach. test
	Modal grade in school records	Mod. grade
8C	Alienation from high school (1=excellent to 5=poor)	Like sch.
	Disagree: I am often not able to keep up with the rest (6-point rating scale)	Keep up
	Disagree: There are a few who control things in this school and the rest of us are out in the cold	Out in cold
	Disagree: School is dull and boring (6-point scale)	Sch. dull
8E	Do you drink beer? (yes)	Drink beer
	Achievement test score	Ach. test
	Disagree: School is dull and boring (6-point scale)	Sch. dull
	Rates low with fellows: Stirring up a little excitement	Excitement
9A	Father's occupation (WC-BC)	Fath. Occ.
	Low father's educational level (1 - 9)	Fath. Ed.
	Major course emphasis (college - non)	Course Emp.
9B	Father's occupation (WC-BC)	Fath. Occ.
	Major course emphasis (college - non)	Course Emp.
	Low mother's educational level (1 - 9)	Moth. Ed.
9C	Father's occupation (WC-BC)	Fath. Occ.
	Low father's educational level (1 - 9)	Fath. Ed.
	Major course emphasis (college - non)	Course Emp.
	Total in-school organizations to which respondent belongs	Sch. org.
9D	Father's occupation (WC-BC)	Fath. Occ.
	Total in-school organizations to which respondent belongs	Sch. org.
	Alienation from high school (1=excellent to 5=poor)	Like sch.
	Do you drink beer? (yes)	Drink beer
10A	Disagree: My parents always know where I am and what I'm doing (6-point scale)	Pts. know w.
	Lack of friends in high school (5-point scale)	Fr. in sch.
	Total number of non-school (community) organizations to which respondent belongs	Comm. orgs.
10B	Hours per week going out with friends (coded)	Out w. frs.
	Rates low: Stirring up a little excitement	Excitement
	Low status expected occupation (WC-BC)	E. white co.

NOTE: The abbreviations used do not always designate the high end of the scale

Table II. D. 3. Groups of Selector Variables Used with each of the Predictor Sets

(See Table II. D. 2 for definition of the predictor sets)

Predictor-set	Selector variables	Values of the selector variable
8	Father's Occupation	Blue-collar / White collar
	Father's Educational Level	College / High School Graduate / Non High School Graduate
	Mother's Educational Level	" / " / "
	Rating of Own Housing	Excellent/Very Good/ Good/ Average, Fair, Poor, and very poor.
	Major Course Emphasis	College Preparatory / Other
9	Major Course Emphasis	College Preparatory / Other
	Number of Community Organizations to which Respondent Belongs	None/Some
	Number of Teenagers in Trouble with the Police Personally know by Respondent	Less than two/Two to Four/More
	"Do you Drink Beer?"	"No"/ "Yes, occasionally" or "Yes, regularly"
	"In general, how do you feel about your high school?"	"An excellent high school to attend."/ Other.
10	Number of Schools Organizations to which Respondent Belongs	None / Some
	Number of Teenagers in Trouble with the Police Personally known by Respondent	Less than five / Five or more.

Table III.A.1. Intercorrelations among proposed "criteria"

	High Modal Grade	Behavor. Class I.	Behavor. Class II.	Respon-sibility	Emot'l St'y	Doing Well	Distance from: Center	Distance from: Wanted	Distance from: Wanted (Closer)
1. High Modal Grade (1-5)	1.00	-.227	-.206	.504	.424	.450	-.161	-.059	-.014
2. Behavioral Classification I. Delinquency		1.00	.835	-.222	-.176	-.120	.036	-.015	-.027
II. Delinquency plus Nominated behavior problem			1.00	-.140	-.101	-.029	.066	-.009	.005
3. Responsibility (Teacher's rating)				1.00	.784	.364	-.123	-.065	-.019
4. Emotional Stability (Teacher's rating)					1.00	.260	-.107	-.037	-.036
5. Doing well in school (self-report)						1.00	-.134	-.094	-.038
6. Distance from the "center of things" (self-report)							1.00	.107	.303
7. Distance from where want to be (self-report)								1.00	.839
8. Distance closer to center wanted (self-report)									1.00

Table III.B. 1. Variables correlating with High Modal Grade (at the .001 significance level)

Variable Number and Direction	Correlation	Variable
-11	-.202	Low status expeced occupation (Blue collar)
-13	-.201	Total number of offices in school organizations
+29	+.239	Like mathematics courses
-32	-.236	Like shop or vocational courses
-33	-.184	Like physical education
-41	-.235	Shop or vocational courses of value
+47	+.166	Like to take science courses
-51	-.276	Like to take shop or vocational courses
-57	-.413	Plan not to go to college
+58	+.295	Favorite subject is "academic"
-59	-.216	Low father's educational level
-60	-.192	Low mother's educational level
-63	-.211	Money earned during year
+70	+.225	Lack of friends who have graduated and gone to work
-71	-.246	Choice: go with friends rather than to school rally
-81	-.170	Parents have rules against going around with certain boys
-87	-.184	Alienation from city
-88	-.192	Alienation from high school
+94	+.167	Disagree: I am often not able to keep up with the rest.
+97	+.210	Disagree: If a person wants to be successful he sometimes has to go against his principles.
-101	-.168	Disagree: I set difficult goals for myself, which I attempt to reach.
+108	+.237	Disagree: School is dull and boring.
+109	+.375	Hours of school work done at home
+112	+.176	Hours extracurricular activities at school
-113	-.197	Hours visiting friends in their home
-117	-.176	Hours part-time job
-120	-.251	Evenings a week spent going out with friends
-122	-.222	Evenings a week spent working at a job
-132	-.176	Rates low: Being a leader in activities or athletics
-173	-.168	Are any teenagers in trouble with police friends of yours? (Yes)
+176	+.208	Habitual skipping of school is delinquency. (In a boy)
+187	+.181	Habitual skipping of school is delinquency. (In a girl)
-195	-.290	Do you smoke? (Yes)
-196	-.265	Do you drink beer? (Yes)
-197	-.180	Do you drink liquor? (Yes)
-198	-.184	Do you have a car of your own? (Yes)

Table III.B.2. Variables Correlating with Behavioral Classification I, Delinquency (at the .001 significance level)

Variable Number and Direction	Correlation	Variable
+52	+.174	Like to take physical education
+57	+.207	Plan not to go to college
-58	-.170	Favorite subject is "academic"
+62	+.202	Not very religious
+71	+.220	Choice: Go with friends, not to school rally
-78	-.168	Parents have rules against going steady
+83	+.187	Alienation from high school
+90	+.189	Disagree: My parents always know where I am and what I'm doing.
-97	-.205	Disagree: If a person wants to be successful he sometimes has to go against his principles.
-108	-.176	Disagree: School is dull and boring.
-109	-.229	Schoolwork at home
+113	+.167	Hours visiting friends in their home.
+115	+.179	Hours going out with friends.
+116	+.212	Hours going out on dates.
+120	+.208	Evenings a week spent going out with friends.
+121	+.193	Evenings a week spent dating.
+122	+.169	Evenings a week spent working at a job.
-123	-.204	Evenings spent at home with the family.
-161	-.250	Rates low: Drinking.
+170	+.245	Number of teenagers personally know who have been in trouble with police. (boys)
+173	+.218	Any of these people in trouble friends of yours? (Yes)
-180	-.178	Breaking into a store or home is a delinquent act.
+195	+.345	Do you smoke? (Yes)
+196	+.342	Do you drink beer? (Yes)
+197	+.306	Do you drink liquor? (Yes)
+198	+.221	Do you have a car of your own? (Yes)

Table III.B.3 Variables Correlating with Teacher's Rating of Responsibility (at the .001 significance level)

Variable Number and Direction	Correlation	Variable
-9	-.192	Low status father's occupation
-11	-.205	Low status expected occupation
-13	-.179	Total number of offices in school organizations
-15	-.202	Total number of offices in non-school organizations
-19	-.180	Number of siblings
-27	-.204	Number of high schools attended
+29	+.228	Like mathematics courses
-32	-.226	Like shop or vocational courses
-35	-.192	Like art
+37	+.184	Science courses of value
-41	-.240	Shop or vocational courses of value
+47	+.190	Like to take science courses
-51	-.225	Like to take shop or vocational courses.
-57	-.354	Plan not to go to college
+58	+.216	Favorite subject is "academic"
-60	-.203	Low mother's educational level
+70	+.176	Lack of friends graduated and working
-71	-.264	Choice: Go with friends, not to school rally
-87	-.174	Alienation from city
-88	-.191	Alienation from high school.
+94	+.180	Disagree: I am often not able to keep up with the rest
+97	+.225	Disagree: If a person wants to be successful, he sometimes has to go against his principles
+104	+.175	Disagree: One person doesn't count much in the kind of world we have today
+108	+.230	Disagree: School is dull and boring
+109	+.375	Hours school work at home
+112	+.207	Hours extracurricular activities at school
-115	-.212	Hours going out with friends
-116	-.170	Hours going out on dates
-120	-.222	Evenings a week spent going out with friends.
-121	-.181	Evenings a week spent dating.
+153	+.169	Rates low: Getting high grades
+176	+.251	Habitually skips school is a delinquent act. (boy)
+180	+.246	Breaking into a store or home is a delinquent act. (boy)
+184	+.195	Gets a girl "in trouble" is a delinquent act. (boy)
+187	+.200	Habitually skips school a delinquent act. (girl)
+188	+.188	Breaking a window for kicks a delinquent act (girl)
+190	+.167	Takes small items from a store without paying a delinquent act (girl)
-195	-.370	Do you smoke? (Yes)
-196	-.324	Do you drink beer? (Yes)
-197	-.272	Do you drink liquor? (Yes)
-198	-.208	Do you have a car of your own? (Yes)

Table III.B.4. Variables correlating with Teacher's Rating of Emotional Stability (at the .001 significance level)

Variable Number & Direction	Correlation	Variable
+24	+.183	Years at present address
-27	-.283	Number of high schools attended
-32	-.181	Like shop or vocational course
+37	+.182	Science courses of value
-41	-.179	Shop or vocational courses of value
+47	+.202	Like to take science courses.
-57	-.259	Plan not to go to college
+58	+.181	Favorite subject is "academic"
-71	-.176	Choice: Go with friends, not to school rally
+97	+.168	Disagree: If a person wants to be successful, he sometimes has to go against his principles
+109	+.304	Hours school work at home.
+112	+.186	Hours extracurricular activities at school
-120	-.183	Evenings a week spent going out with friends
+176	+.190	Habitually skips school a delinquent act (boy)
-195	-.285	Do you smoke? (Yes)
-196	-.228	Do you drink beer? (Yes)
-197	-.178	Do you drink liquor? (Yes)

Table III.B.5. Variables correlating with Self-report: Doing well in school (at the .001 significance level)

Variable Number& direction	Correlation	Variable
-11	-.258	Low status expected occupation
+29	+.197	Like mathematics courses
-32	-.176	Like shop or vocational courses
-33	-.185	Like physical education
-41	-.200	Shop or vocational courses of value
+47	+.181	Like to take science courses
-51	-.257	Like to take shop or vocational courses
-57	-.376	Plan not to go to college
+68	+.169	Lack of friends who have dropped out
-71	-.1[illegible]0	Choice: Go with friends, not to school rally
-76	-.169	Parents have rules for time for being in at night
-81	-.206	Parents have rules against going around with certain boys
-83	-.168	Parents have rules for driving
-88	-.169	Alienation from high school.
-94	-.462	Disagree: I am often not able to keep up with the rest
+98	+.253	Disagree: I often find myself day dreaming
+100	+.281	Disagree: Nobody pays much attention to my opinion of things
+107	+.216	Disagree: I don't particularly enjoy work, and I don't knock myself out unless I have to
+108	+.334	Disagree: School is dull and boring
+109	+.325	Hours of school work at home.
+112	+.189	Hours extracurricular activities at school
+140	+.218	Rates low: Having his own car
+141	+.175	Rates low: Being a good dancer
+176	+.197	Habitually skips school is a delinquent act. (boy)
+187	+.168	Habitually skips school is a delinquent act. (girl)

Table III.B.6. Correlations with Self-report: Distance from the Center of Things (at the .001 significance level)

Number of variable and Direction	Correlation	Variable
+11	+.171	Low status expected occupation
-12	-.215	Total in-school organizations belong
+13	+.174	Total offices in school organizations
-53	-.182	Like to take music
+57	+.250	Plan not to go to college
+71	+.190	Choice: Go with friends, not to school rally
+87	+.228	Alienation from city
+88	+.203	Alienation from high school
+92	+.312	Disagree: I enjoy social gatherings just to be with people
-95	-.198	Disagree: There are a few who control things in this school and the rest of us are out in the cold
-100	-.240	Disagree: Nobody pays much attention to my opinion of things
+102	+.173	Disagree: I nearly always strive hard for personal achievement
+103	+.199	Disagree: I work like a slave at everything I do until I am satisfied with the results
+105	+.193	Disagree: I am never satisfied with a job I am doing until I know I have given it my best
-108	-.224	Disagree: School is dull and boring
-109	-.212	Hours school work at home.
-112	-.411	Hours extracurricular activities at school
-116	-.304	Hours going out on dates
-121	-.211	Evenings a week spent dating
-124	-.308	Evenings a week spent in school-related activities
-125	-.176	Evenings a week spent in club or other organized group activities
+140	-.207	Rates low: Having his own car
+165	+.179	Community rated poor on general opportunities
+167	+.181	Community rated poor on the local public school system

Table III.B.7. Variables correlating with Self-report: Distance from where would like
(at the .001 significance level)

-16	-.191	Age
-61	-.178	Class in school
-91	-.215	Disagree: If I could trade, I would be someone different from myself.
-95	-.204	Disagree: There are a few who control things in this school and the rest of us are out in the cold
-100	-.186	Disagree: Nobody pays much attention to my opinion of things
-116	-.173	Hours going out on dates
-136	-.187	Rates low: Having his own car

Table III.B.8. Variables Correlating with Self-report: Distance from where want to be (if greater than zero)

(at the .001 significance level)

-16	-.190	Age
-18	-.166	Number of older sisters
-95	-.179	Disagree: There are a few who control things in this school and the rest of us are out in the cold
-100	-.174	Disagree: Nobody pays much attention to my opinion of things
-116	-.224	Hours going out on dates
-121	-.211	Evenings a week spent dating

Table III.B.9. Variables showing a correlation with each of the first five criteria greater in magnitude than .15.

No.	Variable
-57	Plan not to go to college
+58	Favorite subject is academic
-71	Choice: Go with friends, not to school rally
-88	Alienation from high school
+109	Hours school work at home
-195	Do you smoke? (Yes)

Table III.C.1. "Suppressor variable candidates" for the criterion of High Modal Grade, together with the predictor variables involved (predictors correlating more than ± .166 with modal grade and more than ±.166 with suppressor variable)

Suppressor Variable 9. Low status father's occupation (Blue collar) (Validity=-.134)

Predictor Number	Validity	Intercorrelation with suppressor variable	Variable
-13	-.201	+.215	Total number of offices in school organizations
-32	-.236	+.224	Like shop or vocational courses
-51	-.276	+.259	Like to take shop or vocational courses
-57	-.413	+.287	Plan not to go to college
+58	+.295	-.236	Favorite subject is "academic"
-59	-.216	+.477	Low father's educational level
-60	-.192	+.313	Low mother's educational level

Table III.C.2. "Suppressor variable for the criterion of Behavior Classification I (Delinquency), together with the predictor variables involved. (Predictors correlating more than ± .166 with delinquency and more than ± .166 with the suppressor variable.)

Suppressor Variable 51. Like to take shop or vocational courses. (Validity = +.103)

Predictor Number	Validity	Correlation with Suppressor	Variable
57	+.207	+.382	Plan not to go to college
58	-.170	-.357	Favorite subject is "academic"
71	+.220	+.167	Choice: Go with friends, not to school rally
108	-.176	-.217	Disagree: School is dull and boring
109	-.229	-.275	Hours schoolwork at home
122	+.169	+.194	Evenings a week spent working at a job
195	+.345	+.192	Do you smoke? (Yes)
196	+.342	+.217	Do you drink beer? (Yes)
198	+.221	+.172	Do you have a car of your own? (Yes)

Suppressor Variable 117. Hours part-time job. (Validity =+.147)

Predictor Number	Validity	Correlation with Suppressor	Variable
57	+.207	+.174	Plan not to go to college
166	+.212	+.273	Hours going out on dates
121	+.193	+.245	Evenings a week spent dating
122	+.169	+.659	Evenings a week spent working at a job
123	-.204	-.193	Evenings a week spent at home with the family
195	+.345	+.287	Do you smoke? (Yes)
196	+.342	+.190	Do you drink beer? (Yes)
197	+.306	+.210	Do you drink liquor? (Yes)
198	+.221	+.293	Do you have a car of your own? (Yes)

Suppressor Variable 176. A boy is delinquent when he habitually skips school. (Validity =-.131)

Predictor Number	Validity	Correlation with Suppressor	Variable
57	+.207	-.279	Plan not to go to college
58	-.170	+.184	Favorite subject is "academic"
71	+.220	-.282	Choice: Go with friends, not to school rally
88	+.187	-.184	Alienation from high school
90	+.189	-.166	Disagree: My parents always know where I am and what I'm doing
108	-.176	+.210	Disagree: School is dull and boring
109	-.229	+.186	Hours schoolwork at home.
120	+.208	+.194	Evenings a week spent going with friends
161	-.250	+.189	Rates low: Drinking
195	+.345	-.248	Do you smoke? (Yes)
196	+.342	-.236	Do you drink beer? (Yes)
197	+.306	-.179	Do you drink liquor? (Yes)

(Table is continued on the following page.)

Table III.C.2 (Continued) (page 2)

Suppressor variable 187. A girl is delinquent when she habitually skips school. (Validity=-.096)

Predictor Number	Validity	Correlation with Suppressor	Variable
57	+.207	-.204	Plan not to go to college
58	-.170	+.196	Favorite subject is academic
71	+.220	-.190	Choice: Go with friends, not to school rally
161	-.250	+.223	Rates low: Drinking
170	+.245	-.170	How many teenagers do you know personally who have been in trouble with the police?
180	-.178	+.224	A boy is delinquent when he breaks into a store or home.
195	+.345	-.208	Do you smoke? (Yes)
196	+.342	-.251	Do you drink beer? (Yes)
197	+.306	-.185	Do you drink liquor? (Yes)

Table III.C.3. "Suppressor variable candidates" for the criterion of Teacher's Rating of Responsibility, together with the predictor variables involved. (Predictors correlating more than ± .166 with Responsibility and more than ± .166 with the suppressor variable)

Suppressor variable 131. Rates Low: Drinking. (Validity = +.105)

Predictor Number	Validity	Correlation with Suppressor	Variable
71	-.264	-.255	Choice: Go with friends, not to school relly
104	+.175	+.212	Rates low: Being well dressed
108	+.230	+.209	Rates low: Drinking
176	+.251	+.203	A boy is delinquent when he habitually skips school
180	+.246	+.196	A boy is delinquent when he breaks into a store or home
184	+.195	+.234	A boy is delinquent when he gets a girl "in trouble"
187	+.200	+.199	A girl is delinquent when she habitually skips school
195	-.370	-.277	Do you smoke? (Yes)
196	-.324	-.353	Do you drink beer? (Yes)
197	-.272	-.310	Do you drink liquor? (Yes)

Table III.C.4. "Suppressor variable candidates" for the criterion of Emotional Stability, together with the predictor variables involved. (Predictors correlating more than ± .166 with Emotional Stability and more than ± .166 with the suppressor variable.)

Suppressor variable 59. Low father's education level. (validity = -.116)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.181	+.219	Like shop or vocational courses
57	-.259	+.307	Plan not to go to college
58	+.181	-.205	Favorite subject is "academic"
109	+.304	-.209	Hours school work at home
112	+.186	-.230	Hours extracurricular activities at school

Suppressor variable 60. Low mother's education level (Validity = -.105)

Predictor Number	Validity	Correlation with Suppressor	Variable
41	-.179	+.183	Shop or vocational courses of value
57	-.259	+.303	Plan not to go to college
58	+.181	-.172	Favorite subject is "academic"
109	+.304	-.166	Hours school work at home
112	+.186	-.169	Hours extracurricular activities at school
195	-.285	+.183	Do you smoke?
196	-.228	+.202	Do you drink beer?

Suppressor variable 87. Alienation from city. (Validity = -.094)

Predictor Number	Validity	Correlation with Suppressor	Variable
24	+.183	-.181	Years at present address
32	-.187	+.203	Like shop or vocational courses
57	-.259	+.271	Plan not to go to college
109	+.304	-.180	Hours school work at home
112	+.186	-.193	Hours extracurricular activities at school
176	+.190	-.209	Habitually skips school

(Table continued on next page)

Table III.C.4. (Continued)

Suppressor variable 108. Disagree: School is dull and boring. (Validity = +.122)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.181	-.197	Like shop or vocational courses
41	-.179	-.227	Shop or vocational courses of value
57	-.259	-.433	Plan not to go to college
58	+.181	+.216	Favorite subject is "academic"
97	+.168	+.198	Disagree: If a person wants to be successful, he sometimes has to go against his principles
109	+.304	+.293	Hours school work at home
112	+.186	+.217	Hours extracurricular activities at school
176	+.190	+.210	Habitually skips school
195	-.285	-.269	Do you smoke?
196	-.228	-.222	Do you drink beer?
197	-.178	-.210	Do you drink liquor?

Suppressor variable 122. Evenings a week spent working at a job (Validity = -.126)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.181	+.193	Like shop or vocational courses
41	-.179	+.173	Shop or vocational courses of value
57	-.259	+.258	Plan not to go to college
109	+.304	-.176	Hours school work at home
112	+.186	-.179	Hours extracurricular activities at school
120	-.183	+.211	Evenings a week spent going out with friends
195	-.285	+.281	Do you smoke?
196	-.228	+.209	Do you drink beer?
197	-.178	+.192	Do you drink liquor?

Suppressor variable 187. A girl is delinquent when she habitually skips school (Validity = +.145)

Predictor Number	Validity	Correlation with Suppressor	Variable
57	-.259	-.204	Plan not to go to college
58	+.181	+.196	Favorite subject is "academic"
71	-.176	-.190	Choice: Go with friends, not to rally
176	+.150	+.725	Habitually skips school
195	-.285	-.208	Do you smoke?
196	-.228	-.251	Do you drink beer?
197	-.178	-.185	Do you drink liquor?

Table III. C. 5. "Suppressor variable candidates" for the criterion of Doing Well in school together with the predicter variables involved. (Predictors correlating more than ± .166 with Doing well in school and more than ± .166 with the suppressor variable.)

Suppressor variable 9. Low status father's occupation. (Validity = -.108)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.176	+.224	Like shop or vocational courses
51	-.257	+.259	Like to take shop or vocational courses
57	-.376	+.287	Plan not to go to college

Suppressor variable 59. Low father's education level. (Validity =-.131)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.176	+.219	Like shop or vocational courses
33	-.185	+.252	Like physical education
51	-.257	+.258	Like to take shop or vocational courses
57	-.376	+.307	Plan not to go to college
109	+.325	-.209	Hours school work at home
112	+.189	-.230	Hours extracurricular activities at school

Suppressor Variable 87. Alienation from city. (Validity = -.095)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.176	+.203	Like shop or vocational courses
51	-.257	+.182	Like to take shop or vocational courses
57	-.376	+.271	Plan not to go to college
71	-.190	+.277	Choice: Go with friends, not to school rally
88	-.169	+.474	Alienation from high school
100	+.281	-.172	Disagree: Nobody pays much attention to my opinion of things
108	+.334	-.266	Disagree: School is dull and boring
109	+.325	-.180	Hours school work at home
112	+.189	-.193	Hours extracurricular activities at school

Suppressor variable 196. Do you drink beer? (Validity =-.125)

Predictor Number	Validity	Correlation with Suppressor	Variable
32	-.176	+.167	Like shop or vocational courses
51	-.257	+.217	Like to take shop or vocational courses
57	-.376	+.242	Plan not to go to college
71	-.190	+.357	Choice: Go with friends, not to school rally
108	+.334	-.371	Disagree: School is dull and boring
176	+.197	-.236	Habitually skips school
187	+.168	-.251	Habitually skips school

Table III. C.6. "Suppressor variable candidates" for the critierion of Distance from the Center of Things, together with the predictor variables involved. (Predictors correlating more than ± .166 with Distance from center and more than ± .166 with the suppressor variable)

Suppressor variable 51. Like to take shop or vocational courses. (Validity =-.089)

Predictor Number	Validity	Correlation with Suppressor	Variable
11	+.171	+.207	Low status expected occupation
57	+.250	+.382	Plan not to go to college
71	+.190	+.167	Choice: Go with friends, not to school rally
87	+.228	+.182	Alienation from city
108	-.224	-.217	Disagree: School is dull and boring
109	-.212	-.275	Hours school work at home
112	-.411	-.231	Hours extracurricular activities at school
167	+.181	+.167	Rated poor: The local public school system

Suppressor variable 168. Rated poor: Opportunity for economic advancement (Validity = -.047)

Predictor Number	Validity	Correlation with Suppressor	Variable
112	-.411	+.510	Hours extracurricular activities at school
165	+.179	+.510	Rated poor: General opportunities
167	+.181	+.264	Rated poor: The local public school system

Table III.C.7. "Suppressor variable candidates" for the criterion of Distance from Where Would Like, together with the predictor variables involved. (Predictors correlating more than ± .166 with Distance from where would like and more than ± .166 with the suppressor variable.)

Suppressor variable 94. Disagree: I am often not able to keep up with the rest (Validity =-.108)

Predictor Number	Validity	Correlation with Suppressor	Variable
91	-.215	+.235	Disagree: If I could trade, I would be someone different from myself
95	-.204	+.262	Disagree: There are a few who control things in this school and the rest of us are out in the cold
100	-.186	+.385	Disagree: Nobody pays much attention to my opinion of things
136	-.187	+.167	Rates low: Having his own car

Suppressor variable 112. Hours extracurricular activities at school (Validity=-.150)

Predictor Number	Validity	Correlation with Suppressor	Variable
100	-.186	+.194	Disagree: Nobody pays much attention to my opinion of things
116	-.173	+.209	Hours going out on dates

Suppressor variable 140. Rates low: Having his own car. (Validity = -.134)

Predictor Number	Validity	Correlation with Suppressor	Variable
95	-.204	+.260	Disagree: There are a few who control things in this school, and the rest of us are out in the cold
136	-.187	+.406	Rates low: Having his own car

Table III.C.8. "Suppressor" variables for the criterion of Distance from Where Would Want to Be, together with the predictor variables involved. (Predictors correlating more than ± .166 with Distance from where would want to be, and more than ± .166 with the suppressor variable.)

Suppressor variable 94. Disagree: I am often not able to keep up with the rest (Validity =-.087)

Predictor Number	Validity	Correlation with Suppressor	Variable
95	-.179	+.262	Disagree: There are a few who control things in this school, and the rest of us are out in the cold
100	-.174	+.385	Disagree: Nobody pays much attention to my opinion of things

Suppressor variable 140. Rates low: Having his own car. (Validity =-.131)

Predictor Number	Validity	Correlation with Suppressor	Variable
95	-.179	+.260	Disagree: There are a few who control things in this school, and the rest of us are out in the cold.

Table III.E.1 Results of the Construction of "Predictor" and "Suppressor" Scales (N=418)

Criterion	Number of Items Pred. Scale	Suppres. Scale	Regression Weights (Standard Scores) Predict.	Suppres.	Multiple Correlation	Cross-Validation Even Sample (N=402) Predictor Scale Validity
1. Modal Grade	40	1	.696	.162	.555	.366
2. Behavior Classification I	36	5	.556	.085	.501	.297
3. Responsibility	51	2	.618	-.073	.559	.384
4. Emotional Stability	23	6	.408	-.053	.436	.241
5. "Not doing well in School"	34	3	.478	-.111	.573	.301
6. Distance from "Center of things"	28	1	.598	-.075	.536	.288
7. Difference between position and desired position	11	4	.563	.158	.446	.164
3. Absolute value of difference	11	2	.428	.047	.390	.109

Table III.F.1 Results of Simple Linear Multiple Regression Studies

Set	Independent Variables Abbreviated; (See Table II. E.2.)	Multiple regression weights (standard score) for each criterion							
		Behav. Class I		Behav. Class II		Responsibility		Emotional Stability	
		Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample
8A	Like Sch.	+.02	-.07	-.04	-.14	-.13	-.15	-.10	-.16
	Sch. Org.	+.10	+.08	+.12	+.12	+.28	+.21	+.27	+.18
	Dr. Beer	-.16	-.27	-.24	-.31	-.22	-.26	-.23	-.16
	N	338(19)	344(31)	338(28)	344(39)	312(41)	308(41)	312(40)	308(33)
8B	IQ score	+.01	+.03	+.02	+.07	+.12	+.23	+.13	+.13
	Ach. test	+.03	+.05	+.02	+.06	+.07	-.03	+.06	+.06
	Mod. grade	+.27	+.21	+.33	+.24	+.48	+.55	+.44	+.52
	N	214(29)	195(25)	214(35)	195(31)	210(59)	190(67)	210(55)	190(62)
8C	Like sch.					-.14	-.17	-.13	-.19
	Keep up					+.19	+.13	+.17	+.13
	Out in cold					-.05	-.03	-.04	-.06
	Sch. dull					+.10	+.17	+.07	+.09
	N					313(28)	307(33)	313(25)	307(29)
8E	Drink beer	-.15	-.30	-.24	-.34				
	Ach. test	+.08	+.02	+.12	+.11				
	Sch. dull	+.05	+.03	+.11	+.04				
	Excitement	-.01	+.03	+.04	+.04				
	N	298(19)	304(31)	298(33)	304(39)				

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Table III.F.1. (Continued)

Set	Independent Variables Abbreviated; (See Table II.E.2.)	Multiple regression weights (standard score) for each criterion							
		Behav.	ClassI	Behav.	Class II	Responsibility		Emotional Stability	
		Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample
9A	Fath. Occ.	+.03	+.03	+.13	+.00	+.03	+.14	-.01	+.08
	Fath. Ed.	+.01	-.10	+.04	-.18	-.16	-.04	-.10	-.06
	Course Emp.	+.04	+.03	+.05	+.03	+.14	+.18	+.14	+.14
	N	279(06)	272(12)	279(13)	272(19)	279(25)	272(25)	279(19)	272(20)
9B	Fath. Occ.	+.02	+.06	+.11	+.03	+.04	+.10	-.01	+.09
	Course Emp.	+.04	+.04	+.03	+.05	+.15	+.18	+.14	+.15
	Moth. Ed.	-.05	-.03	-.03	-.10	-.19	-.16	-.15	-.05
	N	279(07)	272(09)	279(13)	272(14)	279(27)	272(29)	279(22)	272(20)
9C	Fath. Occ.	+.03		+.13		+.01		-.02	
	Fath. Ed.	+.02		+.06		-.12		-.06	
	Course Emp.	+.03		+.03		+.09		+.08	
	Sch. Org.	+.07		+.10		+.28		+.28	
	N	279(09)		279(16)		279(37)		279(33)	
9D	Fath. Occ.	+.03	+.02	+.10	+.01	+.05	+.08	-.01	+.07
	Sch. Org.	+.08	+.09	+.08	+.10	+.29	+.19	+.29	+.16
	Like Sch.	+.05	-.07	-.03	-.14	-.09	-.15	-.08	-.17
	Drink beer	-.08	-.17	-.11	-.21	-.19	-.22	-.21	-.08
	N	279(13)	272(23)	279(19)	272(30)	279(40)	272(38)	279(38)	272(29)

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Table III.F.1. (Continued page 3)

Set	Independent Variables Abbreviated; (See Table II.E.2.)	Multiple regression weights (standard score) for each criterion							
		Behav. Class I		Behav. Class II		Responsibility		Emotional Stability	
		Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample
10A	Pts. know w.	-.05	-.07	-.09	-.12	-.09	+.00	-.11	-.05
	Fr. in sch.	-.07	-.10	-.15	-.11	-.04	-.07	-.01	-.03
	Comm. orgs.	+.08	+.11	+.12	+.14	+.14	+.18	+.12	+.11
	N	296(12)	270(18)	296(22)	270(23)	296(19)	270(19)	296(18)	270(14)
10B	Out w. frs.	-.07	-.04	-.10	-.05	-.05	-.16	-.10	-.15
	Excitement	+.04	+.13	+.03	+.14	+.08	+.06	+.03	+.03
	E. white co.	+.05	+.12	+.02	+.21	+.13	+.29	+.03	+.17
	N	197(10)	193(18)	197(11)	193(26)	197(17)	193(36)	197(12)	193(25)

Note:--The last lines of each set states the sample size (N) and, in parentheses and italics, the multiple correlation coefficient associated with this Set. (The decimal point is omitted from the multiple correlation)

Table III.G.1. Frequency distributions of predictors and criteria according to selector values in ANALYSIS 8C--Even Numbered Sample (n-340)

Predictor						
Predictor Identification	**1**	**2**	**3**	**4**	**5**	**6**
Alienation from high school (from 1. An excellent high school to attend to 5. A poor high school to attend.)	186	95	48	7	4	0
Disagree: I am often not able to keep up with the rest.	**18**	**30**	**50**	45	84	113
Disagree: There are a few who control things in this school, and the rest of us are out in the cold	46	48	63	43	64	76
Disagree: School is dull and boring	15	34	49	43	97	102

Selectors	Behavioral Class I		Behavioral Class II	
	1	2	1	2
Fathers Occupation				
Blue Collar	17	126	27	116
White Collar	17	180	20	177
Fathers Education				
College	12	142	17	137
High School Graduate	11	111	15	107
Non high school graduate	11	53	15	49
Mothers Education				
College	9	117	13	113
High School graduate	17	153	24	146
Non high school graduate	8	36	10	34
Rate own housing				
Excellent	9	46	9	46
Very good	14	130	18	126
Good	7	76	11	72
Average, Fair, Poor and Very Poor	4	54	9	49
Major Course Emphasis				
College Prep.	12	154	14	152
Other	22	152	33	141
Totals	34	306	47	293

Table III.G.2. Frequency distributions of predictors and criteria according to selector values in ANALYSIS 8C--Odd Numbered Sample (n-346)

Predictor

Predictor Identification	1	2	3	4	5	6
Alienation from high school (from 1. An excellent high school to attend. to 5. A poor high school to attend.)	198	88	49	8	3	0
Disagree: I am often not able to keep up with the rest.	19	36	58	32	89	112
Disagree: There are a few who control things in this school, and the rest of us are out in the cold	50	61	68	33	68	66
Disagree: School is dull and boring	30	36	42	40	77	121

Selectors	Behavioral Class I		Behavioral Class II	
Fathers Occupation	1	2	1	2
Blue Collar	24	133	32	125
White Collar	18	171	27	162
Fathers Education				
College	9	136	13	132
High School Graduate	19	110	23	106
Non high school graduate	14	58	23	49
Mothers Education				
College	10	122	12	120
High School Graduate	25	144	36	133
Non high school graduate	7	38	11	34
Rate own housing				
Excellent	4	51	7	48
Very good	11	121	12	120
Good	15	68	21	62
Average, Fair, Poor and Very Poor	12	64	19	57
Major Course Emphasis				
College Prep.	13	157	17	153
Other	29	147	42	134
Totals	42	304	59	287

Table III.G.3. Results of Analyses of Covariance--Test for differences in regression coefficients among selected sub-samples.

Predictor Set	Selector Variable	F's obtained for each criterion, even and odd samples							
		Behav. ClassI		Behav. Class II		Responsibility		Emotional Stability	
		Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample
8A	Fath. Occ.	1.29	1.34	2.33	3.05*	1.17	.16	1.36	2.10
	Fath. Ed.	1.21	2.00	2.37*	2.14*	.26	.81	1.32	.60
	Moth. Ed.	.89	.96	.59	2.85*	.72	.58	1.18	1.16
	Rate Own House	.78	.63	.91	1.05	1.74	.45	1.44	.57
	Major Cou. Emp.	.85	.55	2.28	1.37	.52	.68	1.15	.58
8B	Fath. Occ.	.26	.27	1.79	.42	.42	.66	.63	1.30
	Fath. Ed.	.55	1.21	.71	1.26	.44	3.05*	1.40	3.54*
	Moth. Ed.	.22	.64	.67	1.00	.70	2.56*	1.60	3.79*
	Rate Own House	.76	.91	1.11	1.09	.87	.63	.57	.84
	Major Cou. Emp.	.36	1.76	.67	2.02	.17	2.35*	.54	3.67*
8C	Fath. Occ.					.73	1.11	1.04	.36
	Fath. Ed.					.90	1.06	1.00	1.04
	Moth. Ed.					.75	.60	1.28	.55
	Rate Own House					.61	2.18*	.52	1.66
	Major Cou. Emp.					.35	.47	.63	.91
8E	Fath. Occ.	.91	1.59	2.65*	2.08				
	Fath. Ed.	.98	1.68	1.14	1.40				
	Moth. Ed.	.87	1.42	.98	2.27*				
	Rate Own House	.68	1.30	.36	.88				
	Major Cou. Emp.	1.19	.65	2.54*	.82				

(Table Continued on next page)

Table III.G.3. Results of Analyses of Covariance--Test for differences in regression coefficients among selected sub-samples. (Continued)

Predictor Set	Selector Variable	F's obtained for each criterion, even and odd samples							
		Behav. Class I		Behav. Class II		Responsibility		Emotional Stability	
		Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample	Even Sample	Odd Sample
9A	No. Comm. Org.	.18		.50		.61		.57	
	No. Frs. in Tr.	.22		.28		.33		.12	
	Drink Beer	.72		1.51		.33		.40	
	Rate Sch. Exc.	.58		3.03*		.33		.31	
9B	No. Comm. Org.	.05		.40		.54		.65	
	No. Frs. in Tr.	.20		.24		.13		.10	
	Drink Beer	.95		.99		.29		.41	
	Rate Sch. Exc.	.27		2.19		.43		.58	
9C	No. Frs. in Tr.	.20		.31		.47		.15	
	Drink Beer	.60		1.11		.47		.84	
	Rate Sch. Exc.	.44		2.27		.29		.33	
9D	No. Frs. in Tr.	.45		.71		.59		.80	
	Major Cou. Emp.	1.09		.67		.55		.24	
10A	No. Sch. Org.	.61	.94	.56	1.40	1.04	.22	2.60	.52
10B	Know 5 in Tr.	.89	.47	.77	.46	1.49	1.49	.27	.41

* Indicates that the F is significant at the 5% level. Degrees of freedom in denominators vary from 174 to 336, in numerators, from 3 to 12.

Table III.G.4. Standard score regression weights, multiple correlation coefficients, and F's for the criterion, "Behavioral Classification II," when sample is broken down according to the selector variables, "Father's Occupation," and "Father's Education,"

Predictor Set 8A	Independent Variable	Standard Score Regression Weights									
		Father's Occupation				Father's Education					
		Blue Collar		White Collar		College		High School Graduate		Non-High School Graduate	
		-Even	Odd	Even	Odd	Even	Odd	Even	Odd	Even	Odd
	Rating of High School (1,"Exc." to 5, "poor")	-.16	-.19	+.11	-.08	+.11	-.11	-.05	-.29	-.19	-.02
	Number of school Orgs. to which S belongs.	+.10	+.16	+.12	+.07	+.12	+.02	+.09	+.13	+.12	+.19
	"Do you drink beer?" (0,"no" to 2, "regularly")										
	Subsample size	140	150	198	194	155	149	121	124	62	71
	Multiple correlation	.30	.31	.31	.50	.39	.33	.11	.50	.42	.38
	Cross-Validation Corr. (From Table III.G.10)	.29	.26	.29	.42	.32	.26	.08	.39	.38	.33
	Multiple correlation without breakdown into subsamples	.28			.39						
	F (3,330 or 3,336 d.f.) (From Table III.G.3.)	2.33		3.05*							
	F (6,326 or 6,332 d.f.) (From Table III.G.3.)					2.37*					2.14*

* Indicates F is significant at the 5% level.

Table III.G.5. Cross-Validation 8A

Behavior Class I

		Even Half-Sample			Odd Half-Sample		
Selector		N	Validity	Cross Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	140	12	10	150	18	13
	(WC)	198	28	23	194	44	36
		338		18	344		27
Fath. Ed.	(Col)	155	35	25	149	31	21
	(H.S.)	121	08	00	124	42	06
	(No.)	62	20	06	71	33	-04
		338		09	344		10
Moth. Ed.	(Col)	124	31	26	133	25	20
	(H.S.)	172	18	11	171	36	23
	(No.)	42	21	-12	40	42	-21
	=	338		09	344		16
Own House	(Exc.)	59	29	-00	56	27	-01
	(V.G.)	146	28	22	131	35	28
	(G.)	75	19	11	83	39	30
	(Ave.)	58	15	-09	74	28	-17
		338		11	344		15
Major	(Col.)	166	19	16	173	25	19
	(Non.)	172	20	15	171	33	25
		338		15	344		23
TOTAL		338	19		344	31	

Table III.G.6.

Cross-Validation 8B

		Behavior Class I					
		Even Half-Sample			Odd Half-Sample		
Selector		N	Validity	Cross Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	83	27	25	85	22	19
	(WC)	131	31	25	110	27	24
		214		25	195		21
Fath. Ed.-	(Col.)	107	34	33	80	30	28
	(H.S.)	65	26	18	80	30	18
	(No)	42	29	-10	35	31	-13
		214		12	195		11
Moth. Ed.	(Col.)	89	29	07	73	04	01
	(H.S.)	103	31	31	96	32	32
	(NO.)	22	16	10	26	24	07
		214		22	195		21
Own House	(Exc.)	34	49	48	32	35	35
	(V.G.)	98	38	37	81	40	39
	(G.)	51	32	20	49	26	16
	(Ave.)	31	16	-11	33	27	-21
		214		27	195		22
Major	(Col.)	110	27	-08	90	11	-01
	(Non)	104	25	23	105	33	29
		214		19	195		21
TOTAL		214	29		195	25	

Table III.G.7.

Cross-Validation 8E

Behavior Class I

		Even Half-Sample			Odd Half-Sample		
Selector		N	Validity	Cross Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	124	19	-03	132	20	-04
	(WC)	174	25	24	172	46	44
			29*	15 12*	304	39*	22 19*
Fath. Ed.	(Col.)	141	30	16	129	27	17
	(H.S.)	105	21	02	115	42	11
	(No.)	52	23	-06	60	36	-15
		298	30*	02 06*	304	42*	05 14*
Moth. Ed.	(Col.)	116	32	20	118	23	14
	(H.S.)	147	20	14	150	36	29
	(No.)	35	24	05	36	53	19
		298	29*	13 09*	304	41*	22 21*
Own House	(Exc.)	51	31	-02	50	12	01
	(V.G.)	130	27	23	118	43	39
	(G.)	69	29	22	71	47	40
	(Ave.)	48	21	-08	65	29	-06
		298	31*	14 07*	304	39*	23 10*
Major	(Col.)	152	26	18	156	22	15
	(Non.)	146	20	18	148	36	33
		298	28*	17 16*	304	36*	24 24*
TOTAL		298	19		304	31	

*Quadratic Model

Table III.G.8.

Cross-Validation. 8A

Behavior Class II

Selector		Even Half-Sample			Odd Half-Sample		
		N	Validity	Cross Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	140	30	29	150	31	29
	(WC)	198	31	26	194	50	42
		338		27	344		36
Fath. Ed.	(Col.)	155	39	32	149	33	26
	(H.S.)	121	11	08	124	50	39
	(No)	62	42	38	71	38	33
		338		24	344		28
Moth. Ed.	(Col.)	124	28	23	133	23	17
	(H.S.)	172	29	26	171	49	44
	(No.)	42	29	12	40	43	15
		338		21	344		33
Own House	(Exc.)	59	29	17	56	25	13
	(V.G.)	146	37	33	131	36	34
	(G.)	75	23	17	83	50	43
	(Ave.)	58	32	23	74	40	25
		338		24	344		29
Major	(Col.)	166	18	14	173	33	24
	(Non)	172	33	28	171	40	35
		338		24	344		32
TOTAL		338	28		344	39	

Table III.G.9.

Cross-Validation. 8B

Behavior Class II

Selector		Even Half-Sample			Odd Half-Sample		
		N	Validity	Cross Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	83	36	33	85	34	28
	(WC)	131	38	27	110	29	21
		214		30	195		25
Fath. Ed.	(Col.)	107	34	34	80	28	27
	(H.S.)	65	37	34	80	36	32
	(No.)	42	35	13	35	35	15
		214		26	195		25
Moth. Ed.	(Col.)	89	30	21	73	18	12
	(H.S.)	103	43	42	96	33	33
	(No.)	22	16	13	26	41	28
		214		30	195		27
Own House	(Exc.)	34	49	46	32	43	40
	(V.G.)	98	36	34	81	40	37
	(G.)	51	53	53	49	29	29
	(Ave.)	31	09	08	33	41	37
		214		33	195		30
Major	(Col.)	110	28	15	90	15	08
	(Non.)	104	31	28	105	38	33
		214		25	195		26
TOTAL		214	35		195	31	

Table III.G.10.

Cross-Validation 8E

Behavior Class II

Selector		Even Half-Sample N	Even Half-Sample Validity	Even Half-Sample Cross Validity	Odd Half-Sample N	Odd Half-Sample Validity	Odd Half-Sample Cross Validity
Fath. Occ.	(BC)	124	42	31	132	21	15
	(WC)	174	27	26	172	55	52
		298	46*	24 26*	304	45*	27 27*
Fath. Ed.	(Col.)	141	35	33	129	29	27
	(H.S.)	105	25	11	115	47	25
	(No.)	52	45	42	60	41	37
		298	42*	25 26*	304	47*	29 35*
Moth. Ed.	(Col.)	116	32	28	118	19	16
	(H.S.)	147	38	33	150	45	41
	(No.)	35	32	14	36	57	22
		298	42*	25 24*	304	49*	34 34*
Own House	(Exc.)	51	31	11	50	27	04
	(V.G.)	130	36	35	118	44	43
	(G.)	69	32	30	71	49	48
	(Ave.)	48	34	23	65	37	25
		298	42*	27 27*	304	46*	34 33*
Major	(Col.)	152	30	16	156	32	17
	(Non.)	146	37	36	148	41	41
		298	43*	29 32*	304	44*	33 34*
TOTAL		298	33		304	39	

*Quadratic Model

Table III.G.11

Cross-Validation 8A

Responsibility

Selector		Even Half-Sample			Odd Half-Sample		
		N	Validity	Cross Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	130	46	45	132	36	36
	(WC)	182	37	35	176	42	42
		312		40	308		38
Fath. Ed.	(Col.)	144	40	40	134	48	48
	(H.S.)	108	33	33	115	30	29
	(No.)	60	52	46	59	40	32
		312		38	308		39
Moth. Ed.	(Col.)	116	34	33	121	32	30
	(H.S.)	157	40	37	153	42	42
	(No.)	39	50	21	34	33	28
		312		34	308		34
Own House	(Exc.)	55	16	09	51	42	42
	(V.G.)	136	55	53	118	41	20
	(G.)	67	36	33	75	43	43
	(Ave.)	54	43	39	64	47	36
		312		40	308		32
Major	(Col.)	150	38	35	154	29	29
	(Non.)	162	29	29	154	35	34
		312		31	308		31
TOTAL		312	41		308	41	

Table III.G.12. Cross-Validation 8A

Emotional Stability

		Even Half-Sample			Odd Half-Sample	
Selector		N	Validity	Cross Validity	N	Validity
Fath. Occ.	(BC)	130	46	26	132	31
	(WC)	182	37	36	176	37
		312		32	308	
Fath. Ed.	(Col.)	144	38	37	134	32
	(H.S.)	108	42	39	115	32
	(None)	60	48	26	59	43
		312		35	308	
Moth. Ed.	(Col.)	116	40	31	121	25
	(H.S.)	157	38	29	153	41
	(None)	39	49	19	34	42
		312		28	308	
Own House	(Exc.)	55	35	27	51	38
	(V.G.)	136	49	49	118	34
	(G.)	67	32	28	75	30
	(Ave.)	54	44	36	64	36
		312		39	308	
Major	(Col.)	150	41	40	154	17
	(None)	162	27	26	154	30
		312		30	308	
TOTAL		312	40		308	33

Table III.G.13. Cross-Validation 8B

Responsibility

Selector		Even Half-Sample N	Even Half-Sample Validity	Even Half-Sample Cross Validity	Odd Half-Sample N	Odd Half-Sample Validity
Fath. Occ.	(BC)	82	62	62	83	63
	(WC)	128	54	53	107	70
		—		—		
		210		56		
Fath. Ed.	(Col.)	104	58	56	76	78
	(H.S.)	64	55	53	79	65
	(Non.)	42	58	47	35	61
		210		53		
Moth. Ed.	(Col.)	86	56	52	72	71
	(H.S.)	103	60	55	94	68
	(Non.)	21	42	22	24	65
		210		50		
Own House	(Exc.)	33	75	65	31	60
	(V.G.)	96	63	63	78	70
	(G.)	50	59	49	49	73
	(Ave., Fair, Poor)	31	43	40	32	56
		210		57		
Major	(Col. Prep)	107	49	48	88	72
	(Non Col. Prep)	103	51	50	102	54
		210		48		
No Selector		210	59		190	67

Table III.G.14

Emotional Stability

Cross-Validation. 8B

Selector		Even Half-Sample			Odd Half-Sample	
		N	Validity	Cross Validity	N	Validity
Fath. Occ.	(BC)	82	53	52	83	65
	(WC)	128	56	55	107	60
		210		53		
Fath. Ed.	(Col.)	104	60	59	76	69
	(H.S.)	64	49	48	79	65
	(Non.)	42	50	44	35	65
		210		52		
Moth. Ed.	(Col.)	86	55	54	72	64
	(H.S.)	103	58	55	94	63
	(Non.)	21	24	-17	24	78
		210		44		
Own House	(Exc.)	33	75	74	31	47
	(V.G.)	96	54	54	78	73
	(G.)	50	58	53	49	57
	(Ave., Fair, Poor)	31	40	38	32	64
		210		52		
Major	(Col.)	107	50	47	88	63
	(Non.)	103	42	41	102	55
		210		44		
No Selector		210	55		190	62

Table III.G.15.

Cross-Validation 8C.

Emotional Stability

Selector		Even Half-Sample N	Even Half-Sample Validity	Odd Half-Sample N	Odd Half-Sample Validity	Cross Validity
Fath. Occ.	(BC)	132	21	137	35	28
	(WC)	181	29	170	23	21
				307		23
Fath. Ed.	(Col.)	143	27	129	22	16
	(H.S.)	108	24	118	26	21
	(Non)	62	32	60	54	50
				307		26
Moth. Ed.	(Col.)	118	36	119	18	16
	(H.S.)	154	22	151	37	22
	(Non)	41	20	37	39	27
				307		18
Own House	(Exc.)	51	17	49	52	-25
	(V.G.)	134	29	117	26	20
	(G.)	74	20	76	39	31
	(Ave., Fair, Poor.	54	37	65	39	38
				307		27
Major	(Col.)	150	11	153	18	17
	(Non)	163	21	154	25	19
				307		17
No Selector		313	25	307	29	

Table III.G.16.

Cross-Validation 8C

Responsibility

Selector		Even Half-Sample		Odd Half-Sample		
		N	Validity	N	Validity	Cross Validity
Fath. Occ.	(BC)	132	22	137	38	37
	(WC)	181	33	170	31	25
				307		28
Fath. Ed.	(Col.)	143	26	129	30	20
	(H.S.)	108	25	118	25	21
	(Non)	62	41	60	55	48
				307		28
Moth. Ed.	(Col.)	118	35	119	29	22
	(H.S.)	154	22	151	34	32
	(Non)	41	29	37	39	31
				307		26
Own House	(Exc.)	51	23	49	47	-24
	(V.G.)	134	34	117	36	29
	(G.)	74	26	76	44	35
	(Ave., Fair, Poor.)	54	30	65	48	42
				307		27
Major	(Col.)	150	14	153	15	12
	(Non)	163	23	154	27	24
				307		19
No Selector		313	28	307	33	

Table III.G.17.

Cross-Validation 9A

Emotional Stability

	Even Half-Sample		Odd Half-Sample		
Selector	N	Validity	N	Validity	Cross Validity
No. Comm. Org. (None)	132	19	135		17
(Some)	147	09	137		-02
			272		09
Friends in Tr.					
(Less than 2)	85	19	75		05
(2 to 4)	88	18	76		19
(More than 4)	106	19	121		29
			272		18
Drink Beer (No)	165	17	163		11
(Yes)	114	18	109		14
			272		12
Like School (Yes)	159	18	158		19
(Other)	120	18	114		14
TOTAL	279	19	272		17

Table III.G.18.

Cross-Validation. 9A

Responsibility

	Even Half-Sample		Odd Half-Sample	
Selector	N	Validity	N	Cross Validity
No. Comm. Org. (None)	132	23	135	23
(Some)	147	17	137	15
			272	19
Friends in Tr.				
(Less than 2)	85	18	75	18
(2 to 4)	88	22	76	17
(More than 4)	106	33	121	27
			272	22
Drink Beer (No)	165	22	163	18
(Yes)	114	27	109	20
			272	19
(Rate Sch. Excellent)				
Like School (Yes)	159	22	158	34
(Other)	120	27	114	10
			272	22
TOTAL	279	25		

Table III.G.19

Cross-Validation 9B

Emotional Stability

		Even Half-Sample		Odd Half-Sample	
Selector		N	Validity	N	Cross Validity
No. Comm. Org.	(None)	132	20	135	19
	(Some)	147	12	137	-11
				272	07
Friends in Tr.					
	(Less than 2)	85	18	75	-01
	(2 to 4)	88	26	76	26
	(More than 4)	106	21	121	24
				272	18
Drink Beer	(No)	165	19	163	07
	(Yes)	114	18	109	14
				272	10
Like School	(Yes)	159	25	158	11
	(Other)	120	17	114	18
				272	14
TOTAL		279	22		

Table III.G.20.

Cross-Validation 9B

Responsibility

	Even Half-Sample		Odd Half-Sample	
Selector	N	Validity	N	Cross Validity
No. Comm. Org. (None)	132	24	135	28
(Some)	147	15	137	16
			272	23
Friends in Tr.				
(Less than 2)	85	23	75	21
(2 to 4)	88	28	76	27
(More than 4)	106	30	121	35
			272	29
Drink Beer (No)	165	23	163	22
(Yes)	114	27	109	25
			272	24
(Rate Sch. Excellent)				
Like School (Yes)	159	27	158	31
(Other)	120	26	114	23
			272	28
TOTAL	279	27		

Table III.G.21.

Cross-Validation 9C

Emotional Stability

		Even Half-Sample		Odd Half-Sample	
Selector		N	Validity	N	Cross Validity
Friends in Tr.					
	(Less than 2)	85	39	75	12
	(2 to 4)	88	29	76	29
	(More than 4)	106	33	121	32
				272	25
Drink Beer	(No)	165	39	163	16
	(Yes)	114	22	109	24
				272	18
Like School	(Yes)	159	31	158	21
	(Other)	120	33	114	24
				272	22
TOTAL		279	33		

Table III.G.22.

Cross-Validation 9C

Responsibility

	Even Half-Sample		Odd Half-Sample	
Selector	N	Validity	N	Cross Validity
Friends in Tr.				
(Less than 2)	85	43	75	32
(2 to 4)	88	28	76	23
(More than 4)	106	42	121	32
			272	30
Drink Beer (No)	165	39	163	25
(Yes)	114	32	109	28
			272	25
(Rate Sch. Excellent)				
Like School (Yes)	159	36	158	32
(Other)	120	34	114	17
			272	27
TOTAL	279	37		

Table III.G.23.

Cross-Validation 9D

Emotional Stability

Selector		Even Half-Sample N	Even Half-Sample Validity	Odd Half-Sample N	Cross Validity
Major	(Col.)	147	36	148	10
	(Non)	132	29	124	21
				272	14
Friends in Tr.					
	(Less than 2)	85	47	75	15
	(2 to 4)	88	28	76	30
	(More than 4)	106	42	121	25
				272	22
TOTAL		279	38		

Table III.G.24

Cross-Validation 9D

Responsibility

Selector		Even Half-Sample N	Even Half-Sample Validity	Odd Half-Sample N	Odd Half-Sample Cross Validity
Major	(Col.)	147	38	148	22
	(Non)	132	28	124	34
				272	25
Friends in Tr.					
	(Less than 2)	85	47	75	37
	(2 to 4)	88	27	76	27
	(More than 4)	106	45	121	39
				272	36
TOTAL		279	40		

APPENDIX I

Lane County Youth Project

ADOLESCENT SURVEY QUESTIONNAIRE
(SES 1963)

Identification of Variables and Coding for the Three Intercorrelation Matrices (Deck 1 with Deck 2, Deck 1 with Deck 7, Deck 2 with Deck 7)

[Items numbered in sequence: 1-75, Deck 1; 76-128, Deck 2; 129-198, Deck 3]

DECK 1

From LCYP Deck Col.	Variable Number	Variable and Coding
60 - 19	1	High Modal Grade 1) F 2) D 3) C, X, Y, blank 4) B 5) A
65 - 79	2	Behavioral Classification I: Delinquent 0) Normal, Dropout, Nominated Behavior Problem 1) Delinquency
60 - 15	3	Responsibility (Teacher's Rating) 1) Low 3,5,7,9) High (X, Y, blank coded 3)
60 - 16	4	Emotional Stability (Teacher's Rating) 1) Low 3,5,7,9) High (X, Y, blank coded 3)
66 - 25	5	Doing well in school (Self Report) 1) Strongly negative 2) Somewhat negative 3) Slightly negative, X, Y, blank 4) Slightly positive 5) Somewhat positive 6) Strongly positive
68 - 67	6	Distance from "center of things" 0) In center 1) 1st line 2) 2nd, 3rd lines 3) 3rd, 4th lines 4) 4th, 5th lines, X, blank 5) 5th, 6th lines 6) 6th, 7th lines 7) 7th, 8th lines 8) 8th, 9th lines 9) Outermost line, Y

Deck 1 continued

From LCYP Deck Col.	Variable Number	Variable and Coding
07 - 49	7	Distance from where want to be (absolute value) 0 through 9 (X, blank coded 3)
07 - 50	8	Distance from where want to be (if ≥ 0, otherwise 0) 0 through 9 (X, blank coded 3)
68 - 6	9	Low status Father's Occupation (Hollingshead Code) 1) White Collar (1,2,3,4) 2) Blue Collar (0,5,6,7,8,9,X,Y, blank)
68 - 7	10	Mother's Work (Should have been recoded) 0) No 1) Yes; full time 2) Yes; part time 3) Yes; summer only, X, Y, blank
68 - 9	11	Low status expected occupation (Hollingshead Code) 1) White Collar (1,2,3,4) 2) Blue Collar (0,5,6,7,8,9,X,Y, blank)
68 -10	12	Total in-school organizations 0, none, through 9 - 9 or more (X,Y, blank coded 3)
68 - 11	13	Total offices in-school organizations 0, none, through 9 - 9 or more (X,Y, blank coded 3)
68 - 35	14	Total non-school organizations Same as 12
68 - 36	15	Total offices non-school organizations Same as 13
65 - 6	16	Age 0) 10 years or under 1) 11 " " " 2) 12 " " " 3) 13, X, Y, blank 4) 14 years or under 5) 15 " " " 6) 16 " " " 7) 17 " " " 8) 18 " " " 9) 19 years or over

From LCYP Deck Col.	Variable Number	Variable and Coding
65 - 10	17	Number of older brothers 0, none, through 9 - 9 or more (X,Y, blank coded 3)
65 - 13	18	Number of older sisters Same as 17
65 - 14	19	Number of siblings Same as 17
65 - 16	20	Doesn't live with 1) Mother and father 3) Other
65 - 18	21	Born elsewhere 1) In Lane County 2) In Oregon, but outside Lane County 3) X, Y, blank 9) Other
65 - 19	22	Rural domicile 1) In a town 2) In a suburb 3) On a farm, X, Y, blank 4) In the country but not on a farm
65 - 20	23	Poor rating of own house 1) Excellent 2) Very good 3) Good, X, Y, blank 4) Average 5) Fair 6) Poor 7) Very poor
65 - 21	24	Years at present address 0) Less than one 1) 1 - 2 2) 2 - 3 3) 3 - 4, X, Y, blank 4) 4 - 5 5) 5 - 6 6) 6 - 7 7) 7 - 8 8) 8 - 9 9) 9 or more

From LCYP Deck Col.	Variable Number	Variable and Coding
65 - 22	25	Number of elementary schools attended 1 - 9, enter the number shown (X, Y, blank coded 3)
65 - 23	26	Number of junior high schools attended 1 - 9, enter the number shown (X, Y, blank coded 3)
65 - 24	27	Number of high schools attended 1 - 9, enter the number shown (X, Y, blank coded 3)
65 - 36	28	Like science courses 0) Not circled 3) X, Y, blank 5) Circled
65 - 37	29	Like mathematics courses Same as 28
65 - 38	30	Like social sciences Same as 28
65 - 39	31	Like English Same as 28
65 - 40	32	Like shop or vocational courses Same as 28
65 - 41	33	Like physical education Same as 28
65 - 42	34	Like music Same as 28
65 - 43	35	Like art Same as 28
65 - 44	36	Like Other courses Same as 28
65 - 45	37	Science courses of value 0) Not circled 3) X, Y, blank 5) Circled
65 - 46	38	Math courses of value Same as 37

From LCYP Deck Col.	Variable Number	Variable and Coding
65 - 47	39	Social sciences of value Same as 37
65 - 48	40	English of value Same as 37
65 - 49	41	Shop or vocational courses of value Same as 37
65 - 50	42	Physical education of value Same as 37
65 - 51	43	Music of value Same as 37
65 - 52	44	Art of value Same as 37
65 - 53	45	Other courses of value Same as 37
65 - 54	46	Courses of first value 0) Physical education 1) Music 2) Art 3) Other, X, Y, blank 5) Science 6) Math 7) Social sciences 8) English 9) Shop or vocational
65 - 57	47	Like to take science courses 0) Not circled 3) X, Y, blank 5) Circled
65 - 58	48	Like to take math courses Same as 47
65 _ 59	49	Like to take social sciences courses Same as 47
65 - 60	50	Like to take English Same as 47
65 - 61	51	Like to take shop or vocational courses Same as 47

From LCYP Deck Col.	Variable Number	Variable and Coding
65 - 62	52	Like to take physical education Same as 47
65 - 63	53	Like to take music Same as 47
65 - 64	54	Like to take art Same as 47
65 - 65	55	Like to take Other courses Same as 47
65 - 69	56	Enjoyed high school more than 7 - 8th grades 1) Enjoyed 7 - 8th grades more 2) Enjoyed both about the same, X,Y, blank 3) Enjoyed high school more
65 - 70	57	Plan not to go to college 1) Yes, definitely 2) Yes, probably 3) No, probably not, have not thought, X, Y, blank 4) No, definitely not
65 - 72	58	Favorite subject is "academic" 0) Shop or vocational 1) Physical education 2) Music 3) Art, X, Y, blank 4) Other 6) Science courses 7) Math 8) Social sciences 9) English
65 - 75	59	Low father's education level (No zero code was encountered) 1) 4 years graduate school 2) 1 - 3 years graduate school 3) 4 years college 4) 1 - 3 years college 5) Business and/or trade school 6) 12th grade high school 7) 10 - 11 grade high school 8) 7 - 9 grade junior high school, X,Y, blank 9) 1 - 6 grade school

From LCYP Deck Col.	Variable Number	Variable and Coding
65 - 76	60	Low mother's education level Same as 59
65 - 77	61	Class in school 1) Freshman 2) Sophomore 3) Junior 4) Senior
66 - 59	62	Not very religious 1) Very 2) Moderately 3) Not very, X, Y, blank 4) Not at all
66 - 60	63	Money earned in year 0) None, X, Y, blank 1) $100 or less 2) $100 - $250 3) $250 - $500 4) $500 or more
66 - 61	64	Money earned in summer 0) None, X, Y, blank 1) $100 or less 2) $100 - $250 3) $250 - $500 4) $500 or more
66 - 63	65	Unable to participate in valued activities because of illness or injury 0) Not applicable, X, Y, blank 1) Less than one year 2) 1 - 2 years 3) 3 - 4 years 4) Over four years
66 - 65	66	Lack of friends in high school 1) All 2) Most 3) Some, X, Y, blank 4) Few 5) None
66 - 66	67	Lack of friends in college Same as 66

From LCYP Deck Col.	Variable Number	Variable and Coding
66 - 67	68	Lack of friends who have dropped out Same as 66
66 - 68	69	Lack of friends in service Same as 66
66 - 69	70	Lack of friends graduated and working Same as 66
66 - 70	71	Choice: Go with friends, not to school rally 1) Definitely go to rally 2) Probably go to rally 3) Probably go with friends, X,Y, blank 4) Definitely go with friends
66 - 71	72	Loyal to parents; will not join valued club 1) Definitely join anyway 2) Probably join 3) Probably not join, X,Y, blank 4) Definitely not join
66 - 72	73	Loyal to teacher; will not join valued club Same as 72
66 - 73	74	Loyal to closest friend; will not join valued club Same as 72
66 - 74	75	Peer disapproval hardest to take 1) Parents' disapproval 2) Teacher's disapproval 3) Breaking with friends, X,Y, blank

(See Deck 2)

DECK 2

From LCYP Deck Col.	Variable No. With Deck 1	Variable and Coding	Variable No. With Deck 7
66 - 5	76	Parents have rules for time for being in at night 0) No rules 3) X, Y, blank 5) Definite rule	1
66 - 6	77	Parents have rules for amount of dating Same as 76, 1	2
66 - 7	78	Parents have rules against going steady Same as 76, 1	3
66 - 8	79	Parents have rules for time spent watching TV Same as 76, 1	4
66 - 9	80	Parents have rules for time spent on homework Same as 76, 1	5
66 - 10	81	Parents have rules against going around with certain boys Same as 76, 1	6
66 - 11	82	Parents have rules against going around with certain girls Same as 76, 1	7
66 - 12	83	Parents have rules for driving Same as 76, 1	8
66 - 13	84	Parents have rules for smoking Same as 76, 1	9
66 - 14	85	Parents have rules for drinking Same as 76, 1	10
66 - 15	86	Own parents more strict than friends' parents 1) Other parents more strict 2) About the same, X, Y, blank 3) Other parents less strict	11
66 - 16	87	Alienation from city 1) Excellent city to live in 2) Very good city to live in 3) Good city to live in,(X,Y, blank) 4) Not a very good city to live in 5) A poor city to live in	12

From LCYP Deck Col.	Variable No. With Deck 1	Variable and Coding	Variable No. With Deck 7
66 - 17	88	Alienation from high school 1) An excellent high school to attend 2) A very good high school to attend 3) A good high school to attend, X, Y, blank 4) Not a very good high school to attend 5) A poor high school to attend	13
66 - 18	89	Disagree: The real qualities of a person come out in the group 1) Agree strongly 2) Agree somewhat 3) Agree slightly, X, Y, blank 4) Disagree slightly 5) Disagree somewhat 6) Disagree strongly	14
66 - 19	90	Disagree: My parents always know where I am and what I'm doing Same code as 89, 14	15
66 - 20	91	Disagree: If I could trade, I would be someone different from myself Same as code 89, 14	16
66 - 21	92	Disagree: I enjoy social gatherings just to be with people Same code as 89, 14	17
66 - 22	93	Disagree: Most adults don't pay any attention to kids until they get in trouble Same code as 89, 14	18
66 - 23	94	Disagree: I am often not able to keep up with the rest Same code as 89, 14	19
66 - 24	95	Disagree: There are a few who control things in this school, and the rest of us are out in the cold Same code as 89, 14	20
66 - 26	96	Disagree: Kids would get into less trouble if parents enforced rules more strictly Same code as 89, 14	21

From LCYP Deck Col.	Variable No. With Deck 1	Variable and Coding	Variable No. With Deck 7
66 - 27	97	Disagree: If a person wants to be successful he sometimes has to go against his principles Same code as 89, 14	22
66 - 28	98	Disagree: I often find myself daydreaming Same code as 89, 14	23
66 - 29	99	Disagree: I can't enjoy relaxation unless I feel I've worked hard enough to deserve it Same code as 89, 14	24
66 - 30	100	Disagree: Nobody pays much attention to my opinion of things Same code as 89, 14	25
66 - 31	101	Disagree: I set difficult goals for myself, which I attempt to reach Same code as 89, 14	26
66 - 32	102	Disagree: I nearly always strive hard for personal achievement Same code as 89, 14	27
66 - 33	103	Disagree: I work like a slave at everything I do until I am satisfied with the results Same code as 89, 14	28
66 - 34	104	Disagree: One person doesn't count much in the kind of world we have today Same code as 89, 14	29
66 - 35	105	Disagree: I'm never satisfied with a job I'm doing until I know I've given it my best Same code as 89, 14	30
66 - 36	106	Disagree: People spend too much time working, and not enough time enjoying life Same code as 89, 14	31
66 - 37	107	Disagree: I don't particularly enjoy work and I don't knock myself out unless I have to Same code as 89, 14	32
66 - 38	108	Disagree: School is dull and boring Same code as 89, 14	33

From LCYP Deck Col.	Variable No. With Deck 1	Variable and Coding	Variable No. With Deck 7
66 - 39	109	Hours schoolwork at home 0) None 1) 1 - 3 2) 4 - 6 3) 7 - 9, X, Y, blank 4) 10 - 12 5) 13 - 15 6) Over 15 hours	34
66 - 40	110	Hours playing records (at home) Same code as 109, 34	35
66 - 41	111	Hours watching TV (at home) Same code as 109, 34	36
66 - 42	112	Hours extracurricular activities at school Same code as 109, 34	37
66 - 43	113	Hours visiting friends in their home Same code as 109, 34	38
66 - 44	114	Hours having friends at your house Same code as 109, 34	39
66 - 45	115	Hours going out with friends Same code as 109, 34	40
66 - 46	116	Hours going out on dates Same code as 109, 34	41
66 - 47	117	Hours part-time job Same code as 109, 34	42
66 - 48	118	Hours chores around home Same code as 109, 34	43
66 - 49	119	Evenings a week spent going to the movies 0) None 1) One 2) Two 3) Three, X, Y, blank 4) Four 5) Five 6) Six 7) Seven	44

From LCYP Deck Col.	Variable No. With Deck 1	Variable and Coding	Variable No. With Deck 7
66 - 50	120	Evenings a week spent going out with friends Same code as 119, 44	45
66 - 51	121	Evenings a week spent dating Same code as 119, 44	46
66 - 52	122	Evenings a week spent working at a job Same code as 119, 44	47
66 - 53	123	Evenings a week spent at home with the family Same code as 119, 44	48
66 - 54	124	Evenings a week spent in school-related activities Same code as 119, 44	49
66 - 55	125	Evenings a week spent in club or other organized group activities Same code as 119, 44	50
66 - 56	126	Spare time spent with father during past week 0) No time at all 1) Less than an hour 2) 1 to 3 hours 3) 4 to 6 hours, X, Y, blank 4) More than 6 hours	51
66 - 57	127	Spare time spent with mother during past week Same code as 126, 51	52
66 - 58	128	Spare time spent with brother(s) or sister(s) during past week Same code as 126, 51	53
	129 out	Behavioral Classification II: Behavior Problem or Delinquent 0) Normal, Dropout 1) Nominated Behavior Problem, Delinquency	

(See Deck 7)

DECK 7

From LCYP Deck Col.	Variable No. With Deck 1		Variable and Coding	Variable No. With Deck 2
			What things are important for making a boy really rate with the other fellows?	
67 - 5	76	129	Rates low: Coming from the right family 1) Rates very high 3) Rates fairly high, X,Y, blank 5) Doesn't matter 7) Rates fairly low 9) Rates very low	54
67 - 6	77	130	Rates low: Having money Same code as 76, 54	55
67 - 7	78	131	Rates low: Drinking Same code as 76, 54	56
67 - 8	79	132	Rates low: Being a leader in activities or athletics Same code as 76, 54	57
67 - 9	80	133	Rates low: High grades Same code as 76, 54	58
67 - 10	81	134	Rates low: Dating a lot of different girls Same code as 76, 54	59
67 - 11	82	135	Rates low: Stirring up a little excitement Same code as 76, 54	60
67 - 12	83	136	Rates low: Having his own car Same code as 76, 54	61
67 - 13	84	137	Rates low: Other Same code as 76, 54	62
			What things are important for making a boy really rate with the girls?	
67 - 14	85	138	Rates low: Coming from the right family 1) Rates very high 3) Rates fairly high, X,Y, blank 5) Doesn't matter 7) Rates fairly low 9) Rates very low	63

From LCYP Deck Col.	Variable No. With Deck		Variable and Coding	Variable No. With Deck 2
67 - 15	86	139	Rates low: Having money Same code as 85, 63	64
67 - 16	87	140	Rates low: Having his own car Same code as 85, 63	65
67 - 17	88	141	Rates low: Being a good dancer Same code as 85, 63	66
67 - 18	89	142	Rates low: Being goodlooking Same code as 85, 63	67
67 - 19	90	143	Rates low: Being a leader in activities or athletics Same code as 85, 63	68
67 - 20	91	144	Rates low: Getting high grades Same code as 85, 63	69
67 - 21	92	145	Rates low: Being well dressed Same code as 85, 63	70
67 - 22	93	146	Rates low: Other Same code as 85, 63	71
			What things are important for making a girl really rate with the other girls?	
67 - 23	94	147	Rates low: Coming from the right family 1) Rates very high 3) Rates fairly high, X,Y, blank 5) Doesn't matter 7) Rates fairly low 9) Rates very low	72
67 - 24	95	148	Rates low: Having money Same code as 94, 72	73
67 - 25	96	149	Rates low: Being well dressed Same code as 94, 72	74
67 - 26	97	150	Rates low: Being a leader in activities Same code as 94, 72	75
67 - 27	98	151	Rates low: Dating the "right" fellows Same code as 94, 72	76

From LCYP Deck Col.	Variable No. With Deck 1		Variable and Coding	Variable No. With Deck 2
67 - 28	99	152	Rates low: Being a good sport Same code as 94, 72	77
67 - 29	100	153	Rates low: Getting high grades Same code as 94, 72	78
67 - 30	101	154	Rates low: Having a good reputation Same code as 94, 72	79
67 - 31	102	155	Rates low: Other Same code as 94, 72	80
			What things are important for making a girl really rate with the fellows?	
67 - 32	103	156	Rates low: Coming from the right family 1) Rates very high 3) Rates fairly high, X,Y, blank 5) Doesn't matter 7) Rates fairly low 9) Rates very low	81
67 - 33	104	157	Rates low: Being well dressed Same code as 103, 81	82
67 - 34	105	158	Rates low: Being a leader in activities Same code as 103, 81	83
67 - 35	106	159	Rates low: Having a good reputation Same code as 103, 81	84
67 - 36	107	160	Rates low: Dating a lot of different boys Same code as 103, 81	85
67 - 37	108	161	Rates low: Drinking Same code as 103, 81	86
67 - 38	109	162	Rates low: Being goodlooking Same code as 103, 81	87
67 - 39	110	163	Rates low: Being a good sport Same code as 103, 81	88
67 - 40	111	164	Rates low: Other Same code as 103, 81	89

From LCYP Deck Col.	Variable No. With Deck 1		Variable and Coding	Variable No. With Deck 2
			How would you rate the community for the factors listed below?	
67 - 41	112	165	Rated poor: General opportunities 1) Very good 3) X, Y, blank 5) Good 9) Not very good	90
67 - 42	113	166	Rated poor: Police protection Same code as 112, 90	91
67 - 43	114	167	Rated poor: The local public school system Same code as 112, 90	92
67 - 44	115	168	Rated poor: Opportunity for economic advancement Same code as 112, 90	93
67 - 45	116	169	Who should get the blame when a youngster repeatedly breaks the law? 1) The youngster 2) Movies and television 3) Bad companions, X,Y, blank 4) His parents 5) Neighborhood influences 6) The kind of society we live in 7) Any combination including both parents and youngster 8) Any combination of parents and any other 9) Any combination of the listed items	94
67 - 46	117	170	How many teenagers do you know personally who have been in trouble with the police? Number of boys 0) None 1) One or two 2) Three or four 3) Five or six, X,Y, blank 4) Seven or eight 5) Nine or ten 6) Eleven or twelve 7) Thirteen or fourteen 8) Fifteen or sixteen 9) Seventeen or more	95

From LCYP Deck Col.	Variable No. With Deck 1		Variable and Coding	Variable No. With Deck 2
67 - 47	118	171	How many teenagers do you know personally who have been in trouble with the police? Number of girls Same code as 117, 95	96
67 - 48	119	172	(If you know anyone who has been in trouble with the police), in general, do you think they were treated fairly by the police? 0) No 3) X, Y, blank 5) Yes	97
			Decide "yes" or "no" on the basis of a difference between knowing a person, and knowing of or about a person:	
67 - 49	120	173	Are any of these people friends of yours? Same code as 119, 97	98
67 - 50	121	174	When a high school age youngster repeatedly breaks the law, do you think the individual should be: 1) Released to parents for discipline 2) Placed under the supervision of the juvenile court 3) Treated by a psychiatrist or psychologist, X, Y, blank 4) Sent to a state institution 5) Allowed to live with different family who would do more to help him 6) Any combination of 1,2,3 7) Any combination which includes 5 8) Both 3 and 4 but no other 9) "Other" and nothing else 0) "Church" in any combination or by itself	99
			Do you think a boy is delinquent when he:	
67 - 51	122	175	Refuses to obey his parents: 5) Yes 3) X, Y, blank 0) No	100
67 - 52	123	176	Habitually skips school Same code as 122, 100	101

From LCYP Deck Col.	Variable No. With Deck 1		Variable and Coding	Variable No. With Deck 2
			Do you think a boy is delinquent when he:	
67 - 53	124	177	Breaks a window for kicks Same code as 122, 100	102
67 - 54	125	178	Borrows a car without the owner's permission Same code as 122, 100	103
67 - 55	126	179	Takes small items from a store counter without paying Same code as 122, 100	104
67 - 56	127	180	Breaks into a store or home Same code as 122, 100	105
67 - 57	128	181	Runs away from home Same code as 122, 100	106
67 - 58	129	182	Runs with a gang Same code as 122, 100	107
67 - 59	130	183	Drinks Same code as 122, 100	108
67 - 60	131	184	Gets a girl "in trouble" Same code as 122, 100	109
67 - 61	132	185	Makes out with girls Same code as 122, 100	110
			Do you think a girl is delinquent when she:	
67 - 62	133	186	Refuses to obey her parents: 5) Yes 3) X, Y, blank 0) No	111
67 - 63	134	187	Habitually skips school Same code as 133, 111	112
67 - 64	135	188	Breaks a window for kicks Same code as 133, 111	113
67 - 65	136	189	Drives without a license Same code as 133, 111	114
67 - 66	137	190	Takes small items from a store without paying Same code as 133, 111	115

From LCYP Deck Col.	Variable No. With Deck 1		Variable and Coding	Variable No. With Deck 2
			Do you think a girl is delinquent when she:	
67 - 67	138	191	Runs away from home Same code as 133, 111	116
67 - 68	139	192	Runs with a gang Same code as 133, 111	117
67 - 69	140	193	Drinks Same code as 133, 111	118
67 - 70	141	194	"Gets into trouble" with a boy Same code as 133, 111	119
67 - 71	142	195	Do you smoke? 0) No 1) Yes, occasionally 2) Yes, regularly, X, Y, blank	120
67 - 72	143	196	Do you drink beer? Same code as 142, 120	121
67 - 73	144	197	Do you drink liquor? Same code as 142, 120	122
67 - 74	145	198	Do you have a car of your own? 0) No 2) Yes, X, Y, blank	123
	146	out	Behavioral Classification II: Behavior Problem or Delinquent 0) Normal, Dropout 1) Nominated behavior problem, Delinquency	

Items in the Moderator and Suppressor Scales

The Dependent Variable is Modal Grade

The Following Items Make Up the Predictor Scale

-11 -13 29 -32 -33 -41 47 -51 -57 58
-59 -60 -62 -63 70 -71 -81 -87 -88 94
97 -101 108 109 112 -113 -115 -117 -120 -121
-122 -132 -173 176 180 187 -195 -196 -197 -198

The Following Items Make up the Suppressor Scale

-9

The Dependent Variable is Behavioral Class

The Following Items Make up the Predictor Scale

13 33 52 57 -58 59 62 63 -68 71
-77 -78 -84 88 90 -97 -108 -109 113 114
115 116 120 121 122 -123 -131 -161 170 173
-180 -184 195 196 197 198

The Following Items Make up the Suppressor Scale

51 117 -176 -183 -187

The Dependent Variable is Responsibility

The Following Items Make up the Predictor Scale

-9 -11 -13 -15 -19 24 -27 29 -32 -33
-35 37 -41 47 -51 -57 58 -59 -60 70
-71 -87 -88 93 94 97 104 108 109 112
-115 -116 -117 -120 -121 -122 153 161 -173 176
179 180 184 187 188 190 193 -195 -196 -197
-198

The Following Items Make up the Suppressor Scale

-63 131

The Dependent Variable is Emotional Stability

The Following Items Make up the Predictor Scale

-11 24 -27 29 -32 37 -41 47 -51 -57
58 -71 -88 97 109 112 -115 -120 176 180
-195 -196 -197

The Following Items Make up the Suppressor Scale

-59 -60 -87 108 -122 187

(continued next page)

The Dependent Variable is Doing Poorly in School

The Following Items Make up the Predictor Scale

-11 -13 -20 29 -32 -33 -41 47 49 -51
-57 58 -62 68 -71 -76 -80 -81 -83 -88
93 94 98 100 104 107 108 109 112 140
141 176 187 -195

The Following Iters Make up the Suppressor Scale

-9 -59 -87

Sequential Youth Study * Decks 1 2 and 3 * Moderator Suppressor Scales

The Dependent Variable is Distance From Center of Things

The Following Items Make up the Predictor Scale

11 -12 13 15 23 -53 57 71 87 88
92 -94 -95 -100 102 103 105 -108 -109 -112
-116 -121 -124 -125 -139 -140 165 167

The Following Items Make up the Suppressor Scale

168

Discrepancy Between Student's Actual and Desired Position,

The Dependent Variable is Relative to Center of Things

The Following Items Make up the Predictor Scale

-16 -18 51 -61 -91 -95 -100 -116 -121 -136
-144

The Following Items Make up the Suppressor Scale

-94 -112 -130 -140

The Dependent Variable is Absolute Value of Discrepancy

The Following Items Make up the Predictor Scale

-16 -18 -61 -91 -95 -100 -112 -116 -121 123
-136

The Following Items Make up the Suppressor Scale

-94 -140